Vol 7 No 5

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1995

The Australian COMMODORE and AMIGA REVIEW

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The Australian COMMODORE and Amiga Review

VOL. 7 NO. 5 May 1990

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Editorial

TAKE A CLOSE look at this month's cover and you may be able to pick the fact that it was produced using an Amiga. Sure - we've produced artwork before, but this time, with help from Andre Alexander, we managed to produce the entire front cover using *Professional Page* and *Professional Draw*. Colour separations are a fiddly business, but the fiddling is well worth the cost saving. We hope to use the Amiga much more in the *Australian Commodore and Amiga Review* to help us produce a better magazine.

The Amiga has shown itself capable of some very serious productive and creative processes of late. A large number of professional users and serious enthusiasts have appeared. Whilst the *Commodore Review* has always endeavoured to cater for everyone's tastes, there isn't always room to do everything. So, starting July, a new magazine will be launched catering specifically for the Professional Amiga User. It will concentrate on Desktop Publishing, Desktop Video, Business Software and the more serious ways of using an Amiga. Best of all, it will be fully desktop published using the Amiga.

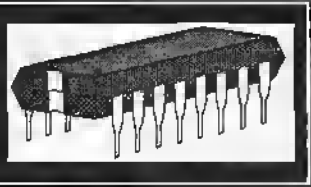
So, that should keep Amiga owners happy. The *Australian Commodore and Amiga Review* will continue to cover the Amiga to its fullest extent, the Commodore C64/C128 as an everything machine and all Commodores as entertainment computers. The Commodore 64 has more users, enthusiastic users, than any other computer in Australia. We will continue to cater for them fully.

This month there's a review of the new Super Explode cartridge - proof that the some of the best C64 peripherals are yet to arrive. Greg Perry continues his regular column on Sound and Graphics, and as yet we still haven't discovered a GEOS columnist ... any takers?

On the music scene, Phil Rigger and Eric Holroyd bring Amiga users up to date. Phil has worked seriously with the Amiga in a MIDI environment for a number of years, and Eric - a household name with C64 lovers - is a musician from back before they had electricity. Both agree that the Amiga is now a truly serious music computer. It's good to see the technically most advanced machine getting software to match its capabilities. ❑

Andrew Farrell

Ram Rumbles



ECP name change

● As from the 1st of April 1990, Entertainment and Computer Products Pty Ltd has changed its name to Electronic Arts Entertainment Pty Ltd, wholly owned by Electronics Arts USA.

Although accessories will still be marked ECP, all software and other stock will have the Electronic Arts brand.

Electronic Arts is one of the largest publishers and distributors of good quality software in the world. They have offices in the United Kingdom, North America (Head Office), New Zealand, Japan and Australia. Electronic Arts has a staff of over 300 people world wide. The annual turnover for 1990/91 is envisaged to be $120,000,000. The company expects this figure to increase in the coming years as it is not only writing games for Amiga, IBM, C64, Apple, Atari, Amstrad but also for the Nintendo and Sega video games as well.

In Northern America and Europe they distribute for twelve affiliated labels, to mention a few - SSI, Lucas Films, Software Toolworks, Miles Computing, Three Sixty, New World Computing, Cinema Ware and California Dreams. In fact, Electronic Arts has the largest affiliated label program in the entertainment software business, and the Australian company will benefit greatly from this. Electronic Arts Australia will be releasing some top titles this year and even more in 1991.

Retail dilemma

● Many of our readers' letters make some rather scathing remarks about retailers. Often these are just isolated examples of service gone wrong, but occasionally the same computer store name keeps popping up. Shopping for advice is always harder than shopping for a good price. It seems when it comes to buying a wordprocessor, both the aforementioned can be difficult to obtain.

We recently conducted a brief survey of several Australian computer stores. The results were a rather disappointing morning of phone calls. Posing as a potential serious wordprocessor consumer, we asked for their recommendations.

The first store suggested either *Pen Pal* or *Excellence!!*, although in the same breath the salesperson said he had never used either for much serious work. We told the salesperson we had tried both and found *Pen Pal's* spell checking facility to be somewhat simplistic for serious writing. The salesperson explained that most wordprocessors, spell checkers work in much the same fashion. Untrue.

We suggested *Excellence!!* as an example of a very powerful spell-checker, which was unfortunately too slow when editing long documents. *Excellence!* works well with a dot-matrix printer once you have all your printer settings correct, but on our imaginary requirement for a LaserJet compatible solution, *Excellence!* is a tad awkward to use.

It was then suggested we could use *Kindwords*. How ludicrous. Although a fine editor for simple letter writing, *Kind-*

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words is certainly no alternative to either of the above two. What about *WordPerfect*? According to the voice at the other end of the phone, *WordPerfect* was not available, and it did not work too well on an Amiga 500 anyway. We had already mentioned the fact that we were using an Amiga 2000. The person concerned seemed uninterested in our needs. Thank you, we will try somewhere else.

For this gentleman's information, *WordPerfect* remains the only truly professional wordprocessing package for the Amiga - it is most definitely still available. However, it is expensive, and lacks some of the usual Amiga type features. The latest upgrade includes a few small improvements which make use of the mouse a little more. On the whole, *WordPerfect* remains a powerful, but slightly slow port of a PC program. We are using *WordPerfect* now, and love it.

We began to wonder how many other computer stores would be equally misinformed or difficult to deal with. We were in for a shock. Our phone call to the next store was answered very professionally. As we waited for assistance, a recorded voice told about all the latest Amiga specials and suggested we call by for a demonstration. At last, we thought, a company who are truly selling Amiga solutions.

Indeed they were, but at a price. We explained our needs to a giggly teenage sounding person who recommended *Pen Pal*. Yes, a very good choice, but the spell checking is not up to scratch. What else do you recommend? Well, chuckle chuckle, have you tried *Excellence!*. It is expensive - $500, but it is excellent - chuckle.

Hold onto your socks, is that not somewhat above the recommended retail price? Indeed, *Excellence!* has a recommended retail price in Australia of $299 or $399 depending which supplier you purchase the package from. The $399 is an old price - which means it is reasonably likely that the shop in question was making a considerable cut above their wholesale price.

Now it is not for us to say what retailers should charge for software. However, it is only fair that consumers should be well informed and know that some computer stores do not blush at charging considerably more than the price recommended by the publisher. Productivity software for the Amiga is already an expensive proposition thanks to our geographic isolation, and market size. Why anyone would deem it necessary to place an even greater burden on the wallets of Amiga owners remains a mystery.

Considering the market is growing, if anything prices should be falling.

Aware of this situation, it would be wise to shop around for price and advice before rushing into a purchase. Some stores are better than others. In Sydney, Computer Spot Hornsby and Chatswood both have an excellent reputation when it comes to good advice. If you have a complaint about a particular store, please write and keep us informed. Readers concerned about the validity of pricing are encouraged to contact the Australian distributor directly to ascertain the correct recommended retail price. If you're unsure about advice, try your local user group, BBS or phone our editorial office. ❑

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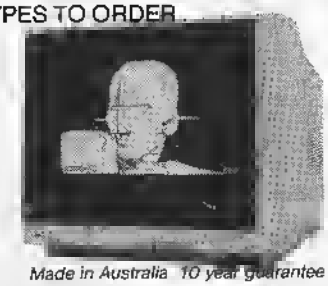

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Amiga Visian

● As the hypermedia market continues to expand, Commodore have also got in on the act with their own authoring system, *Amiga Vision*, which features a very smart user interface. The product enables icon to be arranged on a grid system to represent the various effects and graphics or sound to be displayed. It all looks very impressive, and comes with a very solid manual. We plan to do a full comparison of multi-media products in our new magazine soon. (What new magazine? ... read the editorial.)

The Advantage arrives

● Although much faster than any previous Amiga spreadsheet, *The Advantage* is not quelt everything we had hoped for. Probably the most impressive feature is the ability to export graphics such as bar charts and histograms as *Professional Draw* clip-art. This makes the Amiga a powerful report generator when combined with *Professional Page*. Other amazing features include an AREXX script launch facility when you double click on a cell. Alternatively, a cell may contain a link to a *Transcript* document. No distributor announced as yet - some stores do have copies for around $200.

Amiga 3000 launchimminent

● The powerful A3000 will have rolled onto the production lines as our May issue hit the streets. With sleeker styling, more expansion, and a number of functional improvements, not to mention a massive jump in speed, the A3000 should prove to be tough competition for the new 68030 based Mac which is more than twice the price.

Prafessianal Page 1.31 bugs!

● The latest version of *Professional Page* appears to have slipped down a rung in the stability department. After extensive testing, we can report a number of unexpected system failures. Gold Disk are looking into these problems immediately. It is disappointing to see a once reliable product become unpredictably crashable. Let's hope they fix it fast.

Audiomaster II

New Audiomaster nat far aff

● Talented Australian software designer, Peter Norman, has rewritten *Audiomaster* and is calling the new version *Audio Engineer* and *Audio Engineer Professional*. The serious version will include hardware for around $400 and is promised to sample in 16bits at 56Khz! Impressive stuff - we wait with baited ears to experience the results. More innovation from downunder! Available from Computermate (02) 457 8388.

New Excellence! 1.3

● A new version of *Excellence!* is expected real soon now. According to rumours, it is expected to be considerably faster. We managed a sneak preview and found that the speed was better, but more noticeable were the additions to the manual which help explain away a lot of the problems people have experienced with printers. Adobe fonts can now be used, so long as you set your pitch and spacing correctly. There didn't appear to be many new features - perhaps most of the hard work has taken place behind the scenes eradicating old bugs. *Excellence!* is acceptably fast when used with a faster processor such as the 68020, however standard A500s tend to run a little slow!

Family tree saftware

● *GENP*, a powerful genealogical package for the Amiga, is available. Multitasking with other Amiga programs, the software provides a swag of features including:- Standard Descendent, Pedigree, Family Sheets, Multiple Databases, Pictures, HotKeys, Multiple Users, Data Dictionary and a 120 page manual. The program is available direct from GENP for $150 plus P&P. For information call (03) 584 2765 or write to GENP, 37 Charles St, Cheltenham, Victoria 3192.

Glare prablems partially salved

● We've been testing the new Hi-Tek specially tinted acrylic screen filters for a couple of months now. Doing

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a good deal of wordprocessing and DTP a screen filter comes in mighty handy. The Hi-Tek model has been improved to actually sit inside the screen area rather than rest over the top of the monitor. Glare is significantly reduced and colours appear sharper and more consistent. With the right adjustment, interlace mode becomes a very usable option. The filter carries a ten year guarantee. RRP is $49.95, any enquiries ring (02) 671 1856. Filter screen type 2 fits Commodore 1701 - 1802, PC 1081, Phillips 8833 - 8854. Filter screen Type 3 fits Commodore 1064S - 1084SO - 1901 - 1802 - 1804 - 1701. Thompson 2002.

Laser displays

● LaseRage, a Perth based company, have used their own package, *Firefly*, to produce sensational laser lightshow displays via a Commodore Amiga. The system has been described as the most significant laser control system yet seen in Australia.

The software meets the high standards of professional operators, but is simple enough even for the first time user.

Written especially for the Amiga, *FireFly* is actually a suite of four modules which enable laser images to be prepared, edited and assembled ready for display via GS galvanometer scanners. A full complement of special effects display features is provided, along with the ability to create and edit images of up to 5000 points.

The software was handwritten in Amiga machine code and takes full advantage of the Amiga DMA (direct memory access) custom chip set. A standard Amiga with 1MB memory is all that is required - and a friend with the galvanometer.

Using *FireFly*, laser-scanned images, logos, text messages, animation and icons can be projected onto walls, flags, screens and even the night sky. This has a huge number of applications in the advertising, motion picture, conference, promotion and video industries, along with its uses in pure entertainment.

For example, all laser graphics seen at the 1989 World Ski Championships at Thredbo, NSW, were produced and displayed using *FireFly* and the Amiga. Isn't it great to see an Australian product with such fabulous export potential.

Police Academy downunder

● The Queensland Police Force has discovered the value of the Commodore Amiga as a cost effective method of producing professional quality video. Until recently, video productions were out of reach of the budget of the Queensland Police because they relied on the use of professional outside facilities, such as those used by TV and film production companies, TV stations, and so on. Needless to say, these facilities do not come cheap.

Now, the force is producing a monthly video magazine, including training material from Cadet to Tactical Response Groups, as well as public relations support material for the entire Queensland Police Department.

Their complete hardware setup includes an Amiga 2000, three megabytes of RAM, a 40 megabyte hard disk, Genlock and software such as *Pro Video Plus* (allowing full character generation of up to 2600 pages of text and 92 different page transitions), *Deluxe Paint III*, *Video Scape 3D* (a complex three dimensional animation program), along with word processing, budgeting and accounting software.

The addition of the Amiga 2000's unique "Bridgeboard" allowed compatibility with IBM PC standard equipment, including editing equipment. Now all the Edit Decision Lists (EDL's) which are the critical connection between rough tape and a finished production, can be printed and stored for future use. ❑

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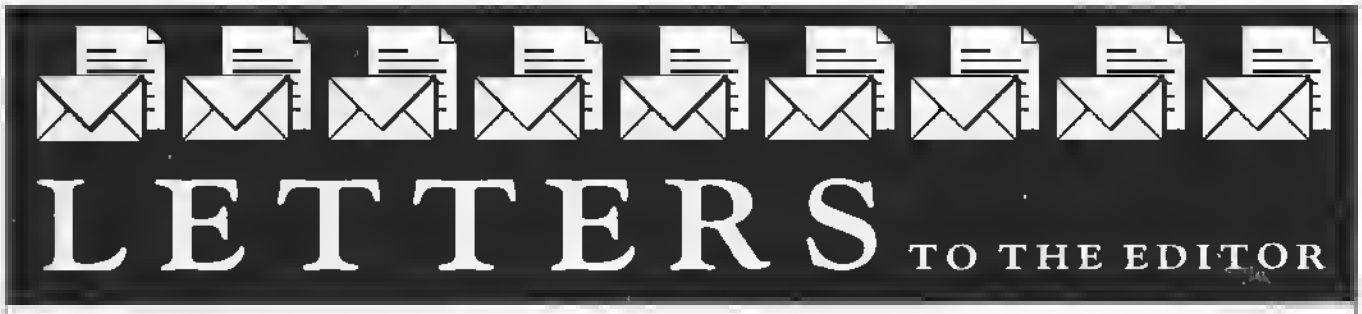

LETTERS TO THE EDITOR

The ultimate C64 utility

● I wonder if any machine language experts can write what must be the ultimate C64 memory management utility to liberate the 16K hidden RAM.

Every such memory management utility I've seen in magazines has had limitations that make them unusable in Basic programs.

For instance the only access offered to the hidden memory is through poke/peek, which operates at such a snail's pace that you may as well just store and read the data from disk. Poke/peek is quite inappropriate for something the size of a character set, let alone a high-res screen.

Most RAM disk utilities aren't accessible from Basic program mode. Also they often allow the storage of only one set of data (or one program) at a time.

The utility would need to do the following:

a) Open up the maximum possible "hidden" RAM for the storage of ML data, screens, character data etc - as near as possible to the full 16K available.

b) contain a **block move** routine (like that normally available at Dec. 41964). This needs to be accessible from program mode.

c) The actual code for the utility should go somewhere like the tape buffer so that Dec. 49152+ is free for further expansion of normal memory. Ideally it would be relocatable.

d) The initial input of data could be read by Basic from disk to a section of normal memory and then block moved to hidden RAM.

Daniel Henderson
Manly, NSW

Ed: Try the Final Cartridge III! We'll let our machine code experts know of your requirements.

Praises - and which printer driver

● I own an Amiga 500 (1 monitor, 1 printer, 1 meg, 2 drives) and I just recently started to collect your wonderful magazine. Your magazine is interesting and informative. I think it is great that I don't have to buy some out of date overseas magazine any more.

Your article on assembly language is "tops", it has helped me to understand more about the language. So please keep on printing more articles about this.

As for your entertainment section, could you please be a bit more critical on some games because not every game is perfect. And I beg you to use a points system for each game - such as the usual graphics, sound, playability and value scores.

Could I also ask you what kind of printer driver I should use for my Commodore MPS 2020. Some drivers are too slow or print useless characters at the start of documents or pictures. Any information about a good driver for my printer would be greatly appreciated.

You have a great magazine (I know - I have collected hundreds of others). So keep up the good work. I enjoy your articles, except the ones including the 64 and the 128 machines. I would just like to say one thing to C64 owners, I used to own one, and the Amiga is much better so buy one!

A DeWitts
Wagga NSW

Ed: We have to have one letter like yours every month - thank you. Try an Oki 292 or even 192 printer driver. Make sure you have Workbench 1.3 too - the drivers are considerably faster.

Pirates and copy cartridges

● G'day dudes! How's it going? Having an addiction to magazines for the Commodore C64 isn't all it's couped up to be! But of all the magazines I've ever bought and read, this magazine is the best.

I'm very interested in the editorial by Andrew Farrell in December 1989, when he mentioned about the Nasty PIRATE PROBLEM. I'm %50 with this! I'm totally against the pirating of games. Just because I'm not with it, doesn't mean I haven't copied one or two games. I only copy games between friends and family, and not at an amazing pace! One thing I find ironic is companies producing very powerful cartridges with screen editors and back-up features, and placing an almost microscopic warning! An example of this is the Expert Cartridge advertisement in the same issue. If you look-13 words! Do you, or they, honestly think that any Power Crazed Hack Mad Pirate is going to even consider that? I have a friend who is buying version 6 of the Action Replay cartridge, because he LIKES to copy, mess, and destroy everything within 30 feet of his computer with it. He is already considering *Nemesis* with infinite lives, and *Wizball* along with *R-Type* as well.

Simon Mitchell
Cabarite, Vic

Ed: Pirates will be pirates - but those cartridges help a lot of non-pirates make legitimate backup copies!

Thaughts fram a new Amiga awner

● Congratulations on the evolution of a fine magazine, and the devolution of the sunnies!

I purchased my first Commodore when the C64 dropped in price from $699 to $499. Since then, I have owned the SX-64 and currently a 128D. I use the 128D with *Geos 128* software. My Commodore

peripherals include an MPS 1250 printer, (my first printer being the MPS803), a 1351 mouse, a 1750 (512K) RAM expansion and a 1901 monitor. I have found this system okay for use in my small business.

Now, I have just purchased an Amiga 500, a machine I find much more complicated (although the games and music are great).

The Amiga Starter Pack arrived without the modulator but a quick phone call had that straightened out. The three games that come with it are *Eddie Eagle's Super Ski, Miniature Golf* and *Crazy Cars* and they are all ordinary. This letter is being written with *Kindwords*. I'm a slow two-fingered typist, but *Kindwords* is slow to the point of being tedious. I also have some reservations about the spell checker, having found some errors after checking. Print quality, however, is excellent. The final program, *Fusionpaint*, is one I haven't looked at in any detail, so I won't make a judgement. All in all, however, this Starter Pack is only fair value, particularly compared to some of the packs offered OS.

In your January edition, Eric Holroyd reviewed *Pen Pal* - a word processor with a database, what a fantastic idea! Eric admitted that the DB "is just a glorified list manager" but unfortunately did not look at the status screen of the database "listings" a tutorial supplied with the program. The status shows relevant storage information. He would have seen that this small database was only capable of holding around 380 entries. I tried a basic database of approximately 20 fields and it would hold just 200 entries. Now I would call this a very real shortcoming, particularly when you consider the way this program is marketed. A phone call to Pactronics ensured that the program was set up to its suggested specifications, but I was advised that as it is memory resident and not disk based I would require more Ram! In other words it is possible to fit many small DBs on disk but only the one in memory. Sorry, I can't afford more than 1 meg . . . yet. In comparison my similar *geoFile* holds the application and over 1000 records with 50k spare on a 330K 5.25 1571 drive. As a novice, I stand to be corrected on this point, however, if I am wrong then more detail in the manual please. Probably the most disappointing aspect of *Pen Pal* is the print quality. The print quality is not as good or as simple to use as *Geos* or *Kindwords*.

On a sour note, I purchased my Commodore MPS 1250 printer, before *ACAR*'s review. Shortly after getting the 1250 home, I dropped the tractor and broke off three of the four lightweight plastic clips that connect the tractor to the printer. I went back to my dealer and asked them to order the new tractor. It came as quite a jolt when Commodore quoted a price of $250! - wholesale!! Needless to say I'll continue using Tarzan's Grip and will not purchase any more Commodore peripherals if this is an indication of their spare parts pricing policy. Fair go, Commodore, are you saying that the printer itself is worth only $150, even less if you consider retail markup? The MPS 803? Worth $250 on the trade.

By the way, Andrew, I purchased your alternative workbench and virus pack, I'm most impressed. Prime Artifax had them to me overnight. Interlink mail order has been quick and efficient too.

I'd like to say hello to Tracy and Trevor in New Zealand, Lawson in New Zealand, and Bill in Melbourne who are all happy with their Amigas too!

David J.R. Dixon
Malvern, Vic 3144

Ed: Yes, in some respects the Amiga is more complex - fortunately this is matched by an increase in power to a far greater degree. May I suggest Superbase Personal II or Microfiche Filer for your "true" database needs.

Easy articles please ... What about Mac drives?

● As a subscriber, I continue to enjoy ACR. I am pleased you have started columns on educational software and the public domain. Keep it up. Any possibility of a "Learn to use and understand the Amiga" column? I have a fair understanding of electronics and have learnt a bit about PCs but still get lost with a lot written about the Amiga. It seems to be really basic or the other way around and assume knowledge I don't have. Is it a problem that computer (or Amiga) experts have that they cannot step by step clearly explain how one concept develops from another?

Do you have any info of how a Mac Drive can be wired to work directly from the Amiga? (The Amigatosh drive). Can it be done? I could then use a Mac drive as my second or third drive for Amiga use when I need two or three drives by formatting that material from the Amiga to Mac or vice versa.

Keep up the good work with your magazine.

Mark Riley
West Calder, TAS

Ed: A Mac Drive can be connected using MAC-2-DOS, which includes an interface. In this way, the Mac drive can only be used with the MAC-2-DOS software.

However, an Amigatosh drive is expected here pretty soon and will operate as you describe.

Corish's Computer Games Guide

● I am writing to you regarding "Corish's Computer Games Guide". The advertisement in the January *Australian Commodore and Amiga Review* states that it's available from Myers, John Martins and Harris Scarfes. We tried these stores but it was not available. We tried Computer Man in Adelaide, SA, it's available there but we had a shock to find out that they are selling the book for $49.95 when at Standard Books it's available for $29.95 recommended price. Why is it that Computer Man can sell the book for $28.88 above the recommended price - it seems to me that they are ripping off the working person who enjoys his computer and works hard to save up for the expensive games. I hope you print this in your magazine.

Tom Hoppo
Adelaide SA

NOTE: Letters to the Editor should be addressed to 21 Darley Rd Randwick NSW 2031 and not to the Entertainment section Editor. ❑

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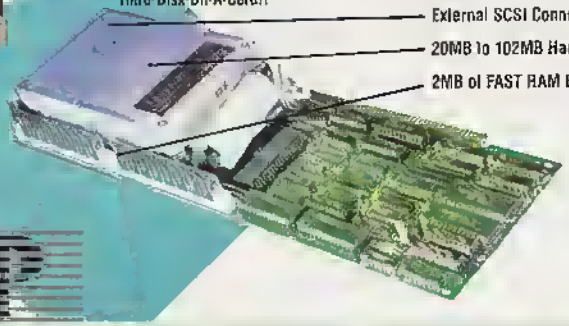

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Making music for beginners with your C64/128

by Timothy Lockwood

THE C-64 COMPUTER has one of the most sophisticated music synthesizers available on any home computer under $500. The Sound Interface Device, or SID chip as it is more commonly known, controls the music we hear coming out of our monitors. The SID chip has five main features; let's take a look at these.

Volume control

● The C-64 has 16 volume levels, ranging from 0 (off) to 15 (maximum volume). Let's say that we want the volume to be twelve. To set the volume level, all you have to do is poke 54296,12. If you want the volume level to be six you would poke 54296,6 and so forth. The volume you select will be the same for all three voices. NOTE: The complete settings for the SID chip are shown in the chart at the end of this tutorial.

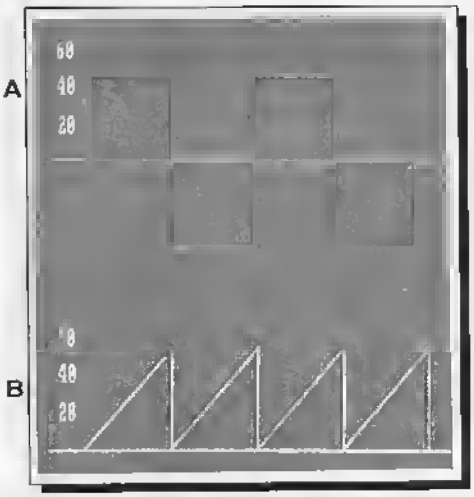
Voices

● The C-64 has three voices. These may be played separately or simultaneously. The settings for the Voices are shown on the chart at the end of this tutorial.

Frequency

● As you probably already know, sound is created by the movement of air. Think of dropping a ball into a swimming pool and then seeing the tiny waves radiating out. When similar waves are created in the air, we hear a sound. Every sound we hear come out of the C-64 is made up of two frequencies. Each of the Commodore 64's voices has two registers where the frequencies are stored.

The two frequencies in each voice combine to form the right frequency value. To play a musical note or a sound, you must first poke the sound's high frequency value into its memory location, and then do the same to the low frequency. At the end of this tutorial there is a chart which will show you the respective memory locations.



A = Square wave
B = Saw tooth wave

Waveforms

● The type of waveform that you choose determines the quality of the sound produced. There are four types of waveforms. Let's just have a quick look at each one!

Triangular: This waveform contains a few harmonics and a mellow flute sound.

Sawtooth: This particular waveform contains all the harmonics. It has a bright, brassy quality.

Pulse: This, the third of the waveforms, contains variable rectangular waves. Changing the Width of the pulse makes sounds ranging from a bright, hollow noise to a nasal , reedy pulse.

White Noise: This waveform is used mainly for sound effects. It ranges from a low rumbling to hissing.

The settings for the waveforms, and all other SID registers, are situated in the chart at the end of this tutorial. You will find this chart in your user manual.

Envelope generator

● The volume of a musical note changes from the time you first hear it until it eventually stops. When the note is first activated it rises from zero volume to its peak volume. The rate at which this occurs is known as the ATTACK. Then it falls from its peak volume to a mid-range volume. The rate at which this process happens is called the DECAY. The mid-range volume is what is known as the SUSTAIN level.

When the note stops playing, it falls from the sustain level to the zero volume. The rate at which this occurs is called the RELEASE. To create the ADSR (Attack, Decay ,Sustain, and Release) you must add an ATTACK level and a DECAY level together and then poke that number into the appropriate memory position, which is shown on the chart at the end of this tutorial. Do the same with the SUSTAIN and RELEASE and then you will have your ADSR.

Creating a song

● Now that we have seen what the SID chip does, let's have a go at putting it into practice.

Firstly we must clear the SID chip, we do this by using the line below.

```
5 FOR L=54272 TO 54296:POKE
L,0:NEXT
```

The next step is to set the volume, that is done like this.

```
10 POKE 54296,15
```

Now it is time to set the ADSR, which you know stands for Attack, Decay, Sustain, and release. The ADSR in the line below gives you a flute-like sound.

```
20 POKE 54277,96:POKE 54278,0
```

NOTE: The first part of the line above gives you your Attack and Decay rate, the second part is for the Sustain and Release.

The line below reads the first piece of information from the data later in the program.

```
30 READ A
```

This line looks to see if the next piece of data is -1, if it is the program ends.

```
40 IF A=-1 THEN END
```

Now we must read the second piece of information in the data, this is done in the line below. NOTE: Each note consists of two bits of information because to produce a sound on your C-64 you need to program two frequencies.

```
50 read B
```

This next line sets up the information to play the two frequencies which we have read from the data in lines 30 and

50. These two frequencies create a single note.

```
60 POKE 54273,A:POKE
```

To actually start the note, we activate the desired waveform. The line below activates the waveform called TRIANGLE.

```
70 POKE 54276,17
```

Now, we let the note play via the first part of the line below, and then stop it by changing the waveform to a register that does not control any existing waveform. This occurs in the second part of the line.

```
80 FOR T=1 TO 300:NEXT:POKE
54276,16
```

The next line, shown below, sets the amount of time that occurs between each note played.

```
90 FOR T=1 to 50:NEXT
```

The line below repeats the process until the computer is given the signal to stop. This signal in this program, is situated in line 120 in conjunction with line 40.

```
100 goto 20
```

Now we finally get to the lines which carry the data for the musical notes.

```
110 DATA 33,135,37,162,42,62,44,193,
50,60,56,99,63,75
```

NOTE: Each set of two data values gives you the correct frequency values to create a single musical note.

The last line ends the program. (See line 40).

Try typing out this program on your computer. The listing is shown below.

```
5 FOR L=54272 TO 54296:POKE
L,0:NEXT
10 POKE 54296,15
20 POKE 54277,96:POKE 54278,0
30 READ A
40 IF A=-1 THEN END
50 READ B
60 POKE 54273,A:POKE 54272,B
70 POKE 54276,17
80 FOR T=1 TO 300:NEXT:POKE
54276,16
90 FOR T=1 TO 100:NEXT
100 GOTO 20
110 DATA 33,135,37,162,42,62,44,193,
50,60,56,99,63,75
120 DATA -1
```

Changing instruments

● How are different sounds made on the computer? The answer is that the type of sound that comes out of your monit0r or television depends on the ADSR. Different ADSR rates create different sounds. I have included a small table below of some of the different instrumental sounds you can use. You will find a bigger table on page 171 of your C-64 manual.

Instrument	waveform	AD	SR
Flute	Triangle	96	0
Trumpet	Sawtooth	96	0
Organ	Triangle	0	240
Xylophone	Triangle	9	0
Banjo	Sawtooth	3	0

Sound effects

● The C-64 can create a wide selection of sound effects for use in games or other programs, even just for fun.

Here are a couple of guidelines you can use when creating your own sound effects.

● Use two or three voices, with each one independantly controlled you should be able to come up with some really weird effects.

● Try using different pulse widths to create different types of sounds.

● Use the WHITE NOISE waveform for the types of effects you hear in computer games, such as explosions, engines, and sirens.

Conclusion

● I hope that this tutorial has helped you to understand making music on your home computer. When the musical powers of the C-64 are harnessed, they can show just what a amazing computer the C-64 really is. ❑

SETTING VOLUME - same for all 3 voices

Volume control	Poke 54296	Setting range from 0-15

VOICE NUMBER 1

TO CONTROL THIS SETTING	POKE THIS NUMBER	FOLLOWED BY ONE OF THESE NUMBERS											
To play a note		C	C#	D	D#	E	F	F#	G	G#	A	A#	B
High frequency	54273	33	35	37	39	42	44	47	50	53	56	69	63
Low frequency	54272	135	134	162	223	62	193	107	60	57	99	190	75
Waveform	54276	T 17	S 33	P 65	N 129								
Hi pulse rate	54275	0 to 15											
Lo pulse rate	54274	0 to 255											
Attack / Decay	54277	A 4 128	A 3 64	A 2 32	A 1 16	D 4 8	D 3 4	D 2 2	D 1 1				
Sustain / Release	54278	S 4 128	S 3 64	S 2 32	S 1 16	R 4 8	R 3 4	R 2 2	R 1 1				

VOICE NUMBER 2

To Play a note		C	C#	D	D#	E	F	F#	G	G#	A	A#	B
High Frequency	54280	33	35	37	39	42	44	47	50	53	56	59	63
Low frequency	54279	135	134	162	223	62	193	107	60	57	99	190	75
Waveform	54283	T 17	S 33	P 65	N 129								
Hi pulse rate	54282	0 to 15											
Lo pulse rate	54281	0 to 255											
Attack / Decay	54284	A 4 128	A 3 64	A 2 32	A 1 16	D 4 8	D 3 4	D 2 2	D 1 1				
Sustain / Release	54285	S 4 128	S 3 64	S 2 32	S 1 16	R 4 8	R 3 4	R 2 2	R 1 1				

VOICE NUMBER 3

To Play a note		C	C#	D	D#	E	F	F#	G	G#	A	A#	B
High Frequency	54287	33	35	37	39	42	44	47	50	53	56	59	63
Low frequency	54286	135	134	162	223	62	193	107	60	57	99	190	75
Waveform	54290	T 17	S 33	P 65	N 129								
Hi pulse rate	54289	0 to 15											
Lo pulse rate	54288	0 to 255											
Attack / Decay	54291	A 4 128	A 3 64	A 2 32	A 1 16	D 4 8	D 3 4	D 2 2	D 1 1				
Sustain / Release	54292	S 4 128	S 3 64	S 2 32	S 1 16	R 4 8	R 3 4	R 2 2	R 1 1				

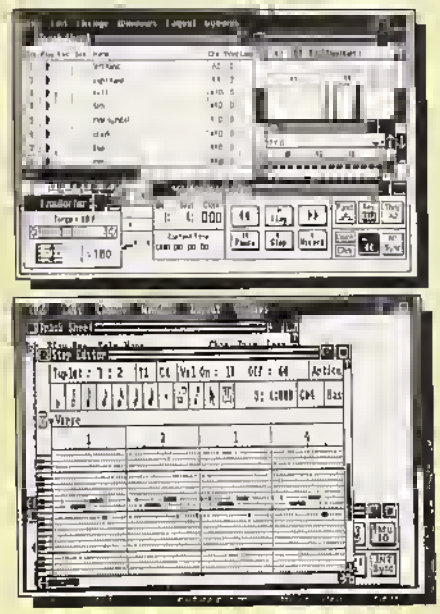
T = Triangle S = Sawtooth P = Pulse N = Noise

Amiga Music Now

Something of a renaissance has been occurring over the last year for music on the Amiga. ***Phil Rigger*** *brings us up to date.*

ONCE THERE WERE only a handful of programs that could be considered professional music applications, but now there are a number of developers who have decided that the Amiga is definitely worth considering as a music computer. Passport have just released *Master Tracks Pro* for the Amiga which is a 64 track sequencer with extensive editing facilities, and Steinberg Research from Germany have just released the *Pro 24* sequencer in England and Europe, although we're yet to see it here.

I was in Germany in 1986 and spent three days at Steinberg looking at the new software packages they were producing for the Commodore 64, as well as acquiring a copy of *Pro 24* which was written for the Atari ST range. At the time *Pro 24* was considered one of the premium music software packages available. I had long and interesting conversations with both Carl Steinberg and his business partner, Manfred Rurup.



Master Tracks Pro

This was the year that the Amiga was being introduced to Australia, so I asked them whether Steinberg Research would be releasing a version for the Amiga. Manfred told me that as there were 50,000 ST's in Germany at the time, this had to be their first consideration. Carl Steinberg in fact told me he considered the Amiga to be a technically superior machine, and was looking forward to writing a system for it.

Well, of course it is now almost four years since that conversation took place, and we are finally seeing Steinberg systems for the Amiga. Let's hope that Venue Music, who distribute Steinberg in Australia, get *Pro 24* to Australia as soon as possible. There are rumours persisting that we will also see an Amiga version of *Cubase*, the latest offering from Steinberg, and *Creator/Notator* from C-Lab, but we will have to wait and see.

Of course there have been a number of companies who have written music packages specifically for the Amiga. Perhaps the most potent are *Music-X* from Microlllusions and *Bars and Pipes* from The Blue Ribbon Bakery. Both of these systems are extremely powerful sequencers, with each offering different approaches to editing and composition. They compare more than favourably with any system available for Atari, Mac or IBM, so a general run down on each should give you an indication of the power and flexibility available.

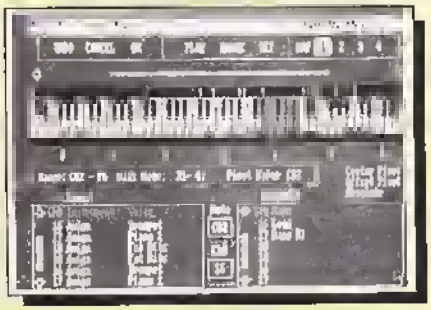
Music-X

● *Music-X* is an unlimited track sequencer. That is, you create a new track when you require it as opposed to having a set number of tracks with which to work. In the manual the tracks are in fact described as 'sequences' not tracks, because *Music-X* uses the 'endless piece of tape' concept. I prefer to refer to them as 'sequence/tracks' myself. Each sequence/track can contain Midi information for all 16 channels, so it can be considered a sequence, but of course it is possible to play up to 20 sequence/tracks simultaneously.

It is interesting to note that *C-Lab* music software for the Atari, which is a 64 track system, was promoted as having the ability to play four different sequences simultaneously. *Music-X* allows up to 20 to be played!

Without a doubt, *Music-X* is one of the steadiest pieces of software available for the Amiga. In over six months of use, it has not crashed once. Amazing when you consider that music software is very much at the mercy of external devices - synths, midi clock from other devices, SMPTE etc. Top marks for reliability.

The main screen consists of a list of sequence/tracks and a set of tape like transport controls with four auto locate buttons and bar, beat clock and realtime displays. To edit, you simply choose the track and click on Edit. There are two editing pages - alpha numeric and piano scroll. The piano scroll edit page is an excellent implementation, with all Midi channel information displayed with each channel having its own colour.



Music X

In a situation where you do have more than one Midi channel displayed, and need to edit only a single channel, you can easily lock all of the other channels out of the display, edit the track and then unlock the other channels. All editing carried out, whether it be by using the mouse, played in from the keyboard or using the Cut and Paste method, will only relate to the Midi channel you have

(continued on page 14)

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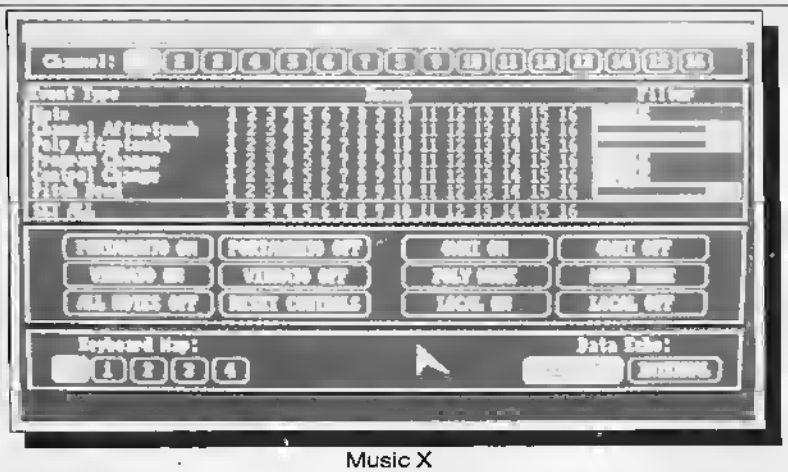


Music X

left displayed. All other information is untouched.

There are an assortment of ways to edit midi information, including unquantizing by %, tempo and velocity scaling and conversion of written events into any other event type. Overall, an excellent means by which to edit your music.

Music-X also has a filters page which allows you to filter Midi information. Most sequencers of course have the same, except that while on this page you can open the Keymaps window. The Keymaps window allows you to define the way your mother keyboard reacts with the program. You can use a mother keyboard with no split capabilities and have the Keymaps page split it to transmit on four different Midi channels.

It also allows you to designate notes on your keyboard to take on new roles such as starting or stopping the sequencer, soloing, muting or even changing the keymap itself. These 'Music-X Commands' can also be written into your composition so that you may play along but have control dictated by commands in the sequence. As well, a control sequence can be setup to start, stop or offset the other sequence/tracks.

The sample page lets you load up to sixteen Amiga samples, which you can use as well as external synths etc with each sample having its own envelope. Any IFF sample can be loaded. While this may not be seen as a professional prerequisite, it does allow all facets of the machine's musical ability to be harnessed.

The Librarian page at first appears to be somewhat standard fare. You can load and save banks of sounds from just about any synth, with the ability to write your own system exclusive commands. But then after loading a bank of D50 sounds, you select one and hit E on your Amiga keyboard. A complete D50 Editor appears. You don't have to shut down the sequencer and load a separate editor - it exists as a module of *Music-X*. Presently it has editors for the Roland D50, Yamaha DX7 and DX100, and Casio CZ1000 or CZ101. There are other editors planned and they will be available as updates. This makes it a very complete sequencing package as well as being very cost effective.

There is a notation module apparently under development as well as a SMPTE reader/generator which are both good news. Of course *Music-X* reads Midi Time Code, and Midi clock, and adheres to all SMPTE frame standards - 24, 25, 30 and 30 drop frame. Once again, a very complete sequencer package which will only get better.

Music X

Bars & Pipes

● *Bars and Pipes* from Blue Ribbon Bakery is the latest sequencer to be released for the Amiga. It gets its name from the analogy that it is like the plumbing in a house. Like *Music-X*, *Bars and Pipes* is an unlimited track sequencer. Again, you add tracks at will and have the option of displaying the screen in low res or interlace mode, the latter allowing 32 tracks to be shown on the main screen. More tracks can exist, and you view them by use of the scroll gadget.

On each side of the track display you have an area which resembles a bar. There is also a Toolbox from which you can select 'tools'. These tools can affect the tracks in many different ways. You have the option of placing them on the bar before or after the track, effectively recording the changes if they are placed before, or not if they are placed after.

You can route information between tracks using the Downpipe, Uppipe and Feedback tools. Some other tool examples are:- Quantize, Unquantize, Harmony Generator, Arpeggiate, Counter Melody, Keyboard Splitter, Randomizer, Chord Inverter, Sforzando, Doctor of Velocity, Delay and Echo.

There are many others as well as the ability to create Macro Tools by combining a number of different tools together. This allows an almost endless chain of possibilities such as the creation of counter melodies, all manner of harmony generation, note filtering, dynamics and modal quantizing.

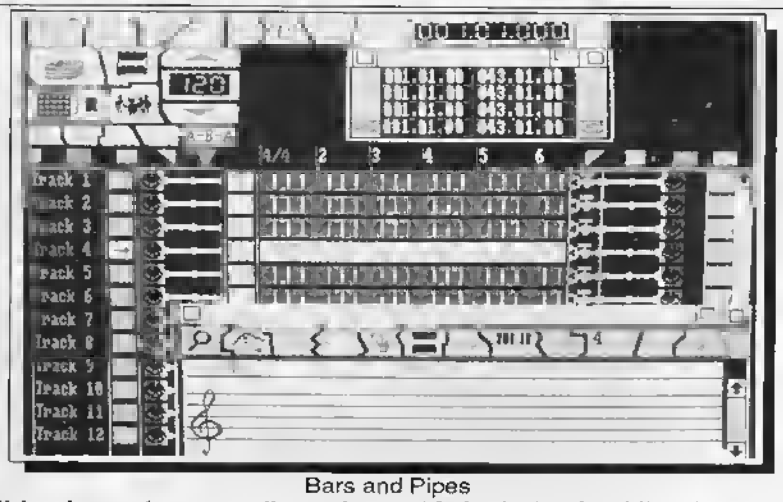
Among forthcoming tools are definable controller sliders which can be recorded in real time and an Amiga sound tool which allows the use of internal Amiga sounds. There are also rhythm templates which you can overlay on tracks, and having created a track, you can save the rhythmic element to disk to be loaded up and overlaid on something else again at a later stage. Got a favourite complex rhythm?

You edit the tracks by double clicking on them which opens a an edit window. You can have more than one edit window open at a time and can insert and delete on the fly. Controller information for pitch bend, poly and mono aftertouch can be drawn by mouse and you can also place dynamic markings, program chang-

es, controller, lyrics, chords, rhythm templates, time and key signatures in this window for both screen reference as well as being able to print a guide sheet out with all of this information on it.

The loop record function is a very neat idea. You set the loop area over which you would like to record and then start it recording. You will notice that it repeats eight times. Upon stopping, a gadget pops up with buttons ranging from one to eight and you can click on any of these to hear one of the eight passes you made. You choose the best take and it then replaces that section of your recording. Again, a great idea. The approach used in *Bars and Pipes* is indicative of the type of development presently going on for the Amiga - innovative concepts being turned into reality.

Melissa Jordan-Grey from Blue Ribbon Bakery and Kailish Ambwani from Gold Disk will be coming out to Australia for the Sound and Vision show from the 3rd - 6th of July. Commodore Australia are exhibiting at the show and my partner Phil Beazley and I will be showing off some of the latest music software for the Amiga. *Bars and Pipes* and *Music-X* will be shown there as well as other music systems such as *Dr. T's Copyist* program. We may even get to see a brand new multi-media program from Gold Disk which not only allows you to run complex graphics presentations and animations but play back Midi files at the same time. Definitely the shape of things to come.



Bars and Pipes

Roland Australia will be providing their latest keyboards for demonstration with the Amiga, heralding the emergence of the Amiga as a serious music computer. The presentation at Sound and Vision will be extensive so there will be many things to see and quite a number of interactive graphics and music systems on the stand. Commodore's decision to use Sound and Vision as its major exhibit this year demonstrates its intention to show the Amiga as a serious creative tool. I am sure you will agree. ❑

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What's new from Dr T?

Keyboard Controlled Sequencer V.3 and Copyist Apprentice

by Eric Holroyd

Eric reviewed KCS v1.6 and Dr T's Copyist Professional software in our August 1988 issue so the following article concentrates on the new features of version 3.0.

Keyboard Controlled Sequencer is a fully professional Desktop Music program to enable musicians to produce very high quality output. It has three basic modes of operation: Track, Open, & Song. In Track Mode the software becomes a sort of 48 track tape recorder (but infinitely more powerful) where music can be entered direct from your MIDI synthesiser on as many of the 48 tracks as you wish.

The Edit facility then lets you play any or all of your recorded tracks, in whatever order. Tracks and sequences may use IFF sound samples as instruments or use MIDI keyboard's own instruments.

Open Mode is a more generalised music sequencing system and provides fully independent looping of up to 128 completely separate sequences. As in Track Mode, sequences and tracks can contain any type of MIDI data, including such things as: Aftertouch; Pitch Bend; Realtime Commands; Note Data etc.

Also, Open Mode sequences can have "events" which stop and start (or otherwise influence) other Open Mode sequences so that you can create complicated music by having one sequence "call up" another.

In Song Mode you can "chain together" sequences created in Track and Open Modes to form complete songs. If you've ever played with one of the "drum machine" packages you already know the basics of how Song Mode works.

Switch between the various modes at will and you are able to transfer data from one Mode to another to use the different functions and features of each. All three Modes have their own Edit, Play & Record screens with most of the commands being very similar.

Many similarities exist between KCS and the concept of word processing. Indeed KCS can be thought of as a professional grade Music Processor. The concepts of Cut, Copy and Paste are used extensively in Editing and Recording and save a great deal of data entry time. Little snippets or large lumps of music may be moved around piecemeal, or duplicated somewhere else in the song.

In many popular songs the same phrase is repeated in a different key and it's a very simple matter to Copy the original phrase and then Transpose it to the new key to save work and time. Also, when entering music you can "Quantize" it if you've made timing mistakes and the computer will correct the timing for you.

Menu options are selected by mouse, the Amiga and numeric keypads are used heavily on each of the Play and Record screens to issue various commands. For instance: F10 in Step Mode plays the last two bars, F2 in Song Mode loops the current segment, whilst the same key in Step Mode Exits to Play.

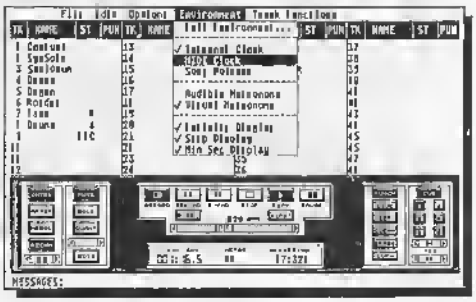
There's a whole host of these commands, which are all on the keyboard overlay supplied with the software. Incidentally, the HELP key is programmed to serve as an UNDO key.

Just as with any other worthwhile venture there's a fair bit of learning and groundwork to cover to become conversant with all the features of this fine piece of software. The manual is very good here and contains tutorials which help to get you "up and running" quickly.

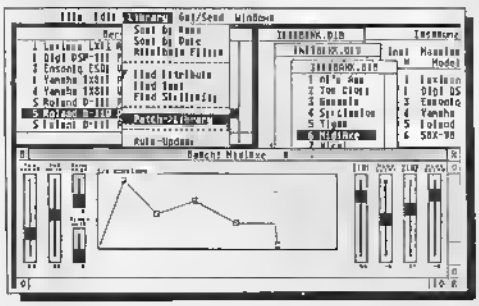
It's a long time since I've seen a manual as good in content, and to complete the picture it's hardbacked and spiral bound so that it'll either prop up against the monitor or lie flat on the desk. Good one guys!

The changes in the update are quite substantial and v3.0 now includes full drop down menus on the three Edit screens and the Track Mode Play & Record screen. Track Mode itself has been changed dramatically and has a slider for tempo, fast forward and rewind buttons, and a total of six "cue loops".

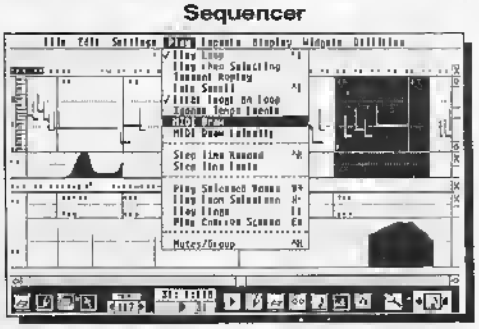
In addition cue looping is much faster and all 48 tracks are visible. A "Go To Measure" function has been added which lets you jump directly to any Measure (or Bar) and the new "remote control" feature eliminates the track status display thereby making it all easier to operate.



Sequencer



Sound Editor



Sequence Editor

Many of Track Mode's functions which were previously operated by clicking onto buttons have now been incorporated into the Track Functions menu. Some of the options on the Edit and Set Options screens have been put into the Options menu. The original keyboard commands are still available.

STOP now acts more like a PAUSE button and no longer resets to the beginning of the cue loop or song. ECHO has been renamed to RECHN (for "rechannelize"). TAB now duplicates the CUE button and starts the sequencer from the cue point.

Track 1 in Track Mode is now very close to the concept of a "conductor track" which makes many of the sequencer operations much faster. It is recommended that users treat this track as a conductor track and not use it for recording MIDI information. Future updates will concentrate more on this feature.

The Edit screens have been changed and are much more attractive. Transpose and Auto section has been replaced with the TRANSFORM menu which has all the old features plus some new ones such as more powerful commands for velocity, duration and controller processing. Split, Calc, and Vary have been improved and there is a new Environment menu where you can access many of the more commonly used options.

Timing improvements have been made to correct a previously obscure "bug" which could change the "feel" of the music under certain circumstances. The metronome counter is now automatically reset at the beginning of each measure which eliminates sync problems. A new Project Menu takes the place of the old Load and Save operations, resulting in simplified file operations.

We all know the Amiga is a multitasking computer and *KCS* takes full advantage of this via its Multi Program Environment. This is an extension of the Amiga's operating system and allows full compatibility with other specially designed Dr T software. MIDI input and output and the sequencer's data storage area are all accessible from other software in the suite and a chapter in the manual discusses this feature.

One of the features now available under MPE is AutoMix which lets you create automated mixdowns with *KCS* using MIDI volume and continuous controllers messages. With AutoMix you can monitor existing controller data AT THE SAME TIME as you're recording new data. There's a display of 32 sliders on screen plus some auxiliary controls to handle this.

Level II V 3.0

● So far I've discussed the *KCS v3.0* software. There's an even higher level of this which is known as "Level II v3.0" which includes all of the above with the addition of *Dr T's Programmable Variations Generator* and *Master Editor*. This is said to be "an enormously capable musical instrument and is arguably the most powerful composition system ever seen on this planet". Quite a claim, but the Dr T team have a habit of coming up with the goods to back up their claims.

The *PVG* provides an extremely powerful editing environment with a number of useful orchestration tools. Using *PVG* it's possible to change the values pertaining to a particular note. Say you want to change the pitch of a note. You have the option to change its velocity, timing, duration and its MIDI channel ALL AT THE SAME TIME. Other parameter values may be changed and music rotated or even time-reversed.

As an editing tool, the *PVG* excels and its ability to perform very complex jobs is quite astounding. Some of its functions appear to duplicate those of the *KCS* Edit screens but in reality they go much further. It is a simple matter to build "macros" of commonly used musical phrases and insert them as and where required.

One of the things that really astounded me with the *PVG* was the transposition example given in the manual. This says that: "You can transpose a sequence up by a half step while instructing the *PVG* to ignore some specific notes and transpose others. If it ignores C,D,F and G while transposing Eb, Ab, and Bb the result of this operation would be to modulate a sequence in the key of C minor into the key of C major".

The *Variations Generator* changes some aspect of a track or sequence whilst allowing *PVG* itself to determine other aspects for you. An example of this is making small variations in note velocities in order to make a melody line sound less "stiff". Rather than spend a long time entering a number of values you can simply set some parameters and let *PVG* apply them to the whole sequence. If you don't like what it's done when you play it back you simply UNDO it and try again.

There's a lot more to *PVG* and at its very deepest level it could be thought of as a tool for computer generated composition. Mainly though, most musicians would simply use it as a great editing and construction tool.

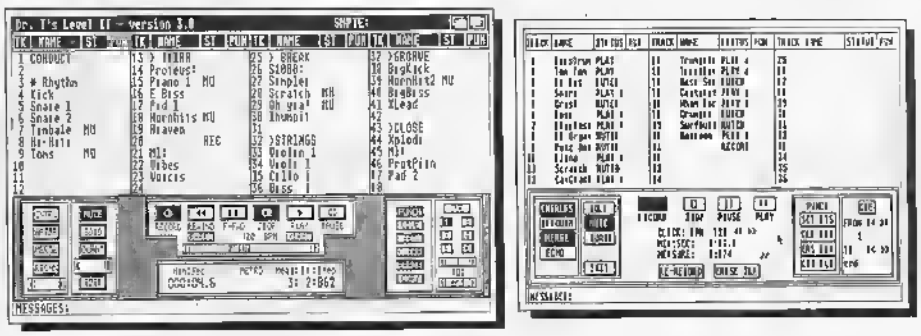
An American music industry magazine recently told of two of the top "pros" in the recording industry who'd used *KCS* exclusively right since it first became available for the Amiga. They saluted its flexibility and capabilities, saying that they'd produced vast amounts of commercial music with it, yet they were in effect still learning how to use it to its fullest.

The article was written after they'd used the software for over a year so that's some accolade to its enormous power. My overview of *KCS* can only really scratch the surface and give you a few clues as to what it can do.

Tiger Cub

● Another Dr T music package is called *Tiger Cub* which is billed as "The music program for the rest of us". The program is educational as well as being easy to use and enjoyable.

Tiger Cub is a fully interactive program with Realtime Recording and Graphic Editing where the full music staff is on screen along with all details of instruments and tracks etc. It promises Quick Scoring, a Conductor Track, One Step Editing, Loop Recording and more.



Level II v3.0

(continued on page 20)

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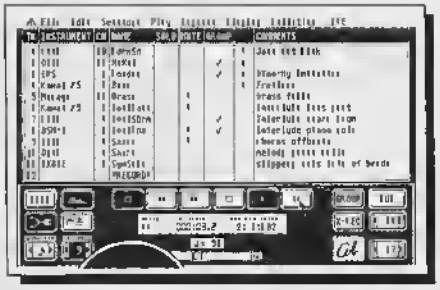

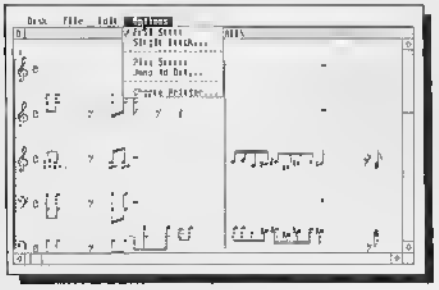

Tiger Cub

The Multi Program Environment is also supported and lets you use IFF samples and instruments as well as being MIDI compatible.

Enter music either on a "pro" level with your MIDI keyboard and *Tiger Cub's* "tape recorder" screen or by "painting" notes with the mouse onto a "piano roll" on the screen. Everything happens in real time and you hear the music play whilst the piano roll scrolls. Just as in *KCS* the music you produce can be saved as industry standard MIDI files or as Amiga SMUS files.

Commodore UK has taken 10,000 units of Dr T's *Amiga MIDI Recording Studio* for their "Class of the '90s" schools package. Many British schools use the Amiga in preference to other computers and Commodore UK decided on this software as the one for students to learn about computer music. Commodore Sweden are also taking the same program for "bundling" with the Amiga.

Music professionals and dedicated home musicians alike would be well advised to check out the Dr T range and *KCS* in particular. It's worth remembering too that music produced with any one of Dr T's packages can be used in any one of the others. This means that if you've been working the *MIDI Recording Studio* package and wish to upgrade to a higher level system such as *KCS* you can use your old data files and add to them with the more advanced features.

Copyist Apprentice v1.62

● First of all *Copyist Apprentice v1.62* is a stand alone music entry system which allows musicians and composers to create manuscript quality printouts directly from the computer screen using a very flexible command key entry system. Music notation, tempo instructions, time signatures, rests, accidentals and all the things that go into making a piece of printed music legible to a musician are entered direct from the Amiga keyboard to be printed out on any Epson compatible dot matrix printer. The results are very good and highly acceptable to any working musician.

Secondly, it's a "transcription" program which can produce scores directly from sequencer files produced on a wide variety of MIDI sequencers which means that printed notated music can be produced direct from SMUS music files. This is great because musicians who can play well but who have limited knowledge of actually writing it all down can let the computer do the work for them.

Also, a skilled pianist or keyboardist can enter the music into *KCS* then let the *Copyist* do the job of printing it out. This would be very good for band leaders or arrangers wishing to do arrangements for their group to play. As long as the music that you're listening to is on disk you can now get the *Copyist Apprentice* to do the hard work of translating it to paper for you.

The program comes on a single disk with a manual. The disk has a number of sample scores to print out and/or experiment with and the Frank Zappa tune printed here is one of them. It was done on a Star LC24-10 printer and I got very similar results on the Star NX1000 too. The example is presented as a single Treble Clef lead line with chord symbols and is a good illustration of the capabilities of the software. Of course, piano music with Treble and Bass Clef can also be printed and you can even add lyrics to your music.

Thus it's a complete music printing system and one which has been talked about for a long, long time. Inventors have been trying for many years to come up with a "music typewriter" but, due to the complexity of the musical language, it hasn't become reality before. Not until

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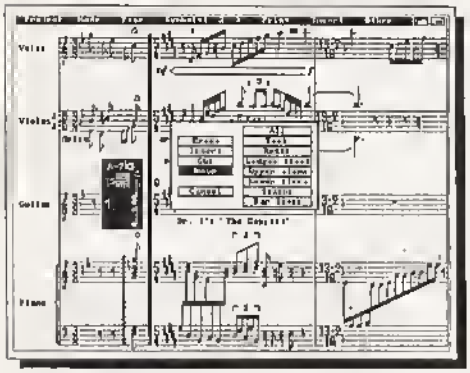

Copyist Apprentice

the electronic age did it finally appear, and I predict that it will rapidly become the "way to go" for music copyists.

When booting the *Copyist Apprentice* you have the choice of Normal or HiRes screen - the latter lets you see more of your music at once. When it is up and running you can set screen colours and other configuration parameters so that it boots directly next time. The entire thing is menu driven and has pull down menus with commands selectable by mouse.

Alongside each command is the keyboard equivalent. There are also a number of HELP screens available from the "Others" menu which has File commands such as Copy, Rename, and Delete. The Project menu follows convention and has Open, Save, Save As etc, whilst the Print menu lets you print: Screen, Page, or complete File.

There are three Symbols menus which cover every possible musical symbol and the Page menu allows selection of First or Last page, Previous or Next page, Insert or Erase a page, and Jump to or Copy from a page. Import menu allows you to import: *KCS* files, MIDI files, or SMUS files for printing, editing or generally working on. Keyboard equivalents are available for all menu commands.

Some nice touches are included such as Vertical Alignment Gauge which ensures that the notes you're writing for the pianist's left hand line up correctly with what he/she is to play in the right hand. Long Note stems too are easy to produce and you can see the results in the first bar of Frank Zappa's "The Black Page". The F# in the group of demi-semi-quavers has a particularly long stem and is written that way for ease of recognition by the performer. The other note stems which join up to the triple beam under the stave are of varying lengths and the whole is a very pleasing and "readable" grouping of notes.

There's much more in the *Copyist Apprentice*, as I said above it's a complete music writing system, and would certainly suit the needs of many musicians. The *Apprentice* seems to have pretty well all I need to write and print my current music.

Dr T's Music Software is distributed by Computermate Products (02)457-8388

Keyboard Controlled Sequencer v3.0 RRP $299.00.
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Super Explode v5.0
A graphics system for the C-64

by Eric Holroyd

Just when you thought we'd seen ALL the cartridge "add-ons" for the C-64 by now, this little ripper turned up.

IT'S BEEN AROUND for quite some time in the USA and has finally made it to our shores, being distributed by the company handling the VIDEO BYTE II digitiser reviewed last issue by Andrew Farrell.

Although it's very much a "stand alone" product (you don't need to have the digitiser to be able to use the Explode cartridge) it's fully compatible with that unit, which has a menu option allowing you to use Super Explode's features with the digitiser active. Alternatively, if you're already using Super Explode you can call up the digitiser from within it.

First of all, this is a graphics and utility system and not a hacker's copy cartridge. It doesn't have sprite manipulators, unlimited lives creators, or machine language monitors as such. What it does have is a host of good routines for capturing and manipulating C-64 graphic screens, with facilities for saving them to disk, displaying, converting between graphic format and other kinds of manipulation.

Pictures may also be sent to the printer and the Star "Rainbow" colour printer (and compatibles) is supported too. (I think this is what the Star NX-1000 Colour unit is known as in the USA.) I did several black and white printouts with very good results and, although I wasn't able to do a colour printout due to not having a colour printer, I'd expect them to be of the same quality as the B & W ones.

Utilities

● The utilities part of the system includes DOS Wedge of shorthand disk commands which certainly save a lot of typing when stacked against the standard Commodore DOS commands. Things like: C= and RUN/STOP will load and run the first file on a disk, pressing the Left Arrow key (top left of keyboard next to "1") and typing a filename gives the same effect as typing SAVE "FILENAME",8. All the usual commands such as Rename and Scratch are there, plus a few nice ones I've wished for previously.

Things like: Shift/A FILENAME will read any ASCII text file to the screen, Shift/R FILENAME reads any file to the screen, Shift/N FILENAME reads a file's starting address (very useful if it's a machine code file and you don't know how to start it running.) One of the many other utility features "conditions the current drive to save files for optimum fast loading" which is a benefit in itself.

There's an UN-NEW command too which works very well after you've reset the computer with the cartridge's built-in reset button. This is very useful for reading BASIC program code where the programmer has put in some anti-list command or suchlike. It can also be used for putting in those POKES that gamesters like to use for extra lives or whatever.

Three kinds of graphics screens can be saved with the Super Explode unit: Multi Colour Bitmapped (Koala type), Hi Resolution Bitmapped (Doodle type), and Standard Commodore ASCII Text display. This last one is commonly used by games programmers, who use "redefined characters" for their various objects on screen. All can be easily redisplayed after being captured and saved to disk, either from within the cartridge or as a slide show by using the display program on the accompanying utility disk. Conversion between these formats is possible and there's a function to convert "split screens" which are the result of a "raster interrupt" running on a screen of redefined characters.

Manual

● There's no manual as such with the cartridge (although there is a handy reference card). Instead, the same display program I just mentioned lets you load in a series of SEQ files from the disk and print your own manual. This is a good idea as you can mess up your copy as much as you like with little notes and scribble etc, then print another one whenever you need to.

The manual is most extensive and really gets down to the "nitty gritty" of Commodore graphics and programmers will certainly appreciate this. You don't

have to be a programmer though to use Super Explode. I found it to be quite easy to use, with the process of capturing a picture and sending it to the printer very well explained step by step on the reference card. I liked the idea of being able to cycle through a number of screens to find the exact screen I wanted to capture too.

Also on the disk supplied is a nice little music and graphics program called *Swinth* which is "just for fun" and lets you choose from several music tracks and displays some very fancy graphics whilst they're playing. There's also a drawing program which creates *Doodle* type pictures and which has basic line, box and circle features. Then there's a program known as Bootle which extends the usefulness of Explode by creating a special loader program which will load and run a series of files from disk.

The nice thing about this is that one of the files to be loaded can be one of your own pictures, so that you could create and display your own title screen before running a program. Full instructions for *Bootle* are on the disk also. To complete the list of utilities on the disk there's a 1526 Print Dump program which, of course, would be very useful to owners of that printer.

> "This is a graphics and utility system and not a hacker's copy cartridge."

This is a very useful cartridge and I strongly recommend it. It's particularly good when used in conjunction with the *Video Byte II* digitiser, and an idea immediately comes to mind for the C-64 owner who's a family man, sports team member, or is in some other social group. Special printer ribbons are available from this same distributor which will print your digitised picture, team logo, group name, or whatever onto ordinary printer paper. The design can then be ironed straight onto a T-shirt or other garment and it all comes out really well.

You need to use Super Explode's "Mirror Image" function to flip the picture left to right before printing, otherwise it'll come out like those press photos we've become so used to seeing in the local press where all the guitar players in the band are left-handed. (I saw one of Sir Donald Bradman in a Sydney newspaper batting left-handed once!)

Comparisons between products are always on the cards of course, and the Cockroach Graphics Utility system came to mind when I was reviewing the Super Explode unit. It too is a cartridge and disk system and works very well. The two units have a number of features in common, but an even greater number of individual features, which leads me to think that a dedicated 64-er who dabbles a lot in graphics manipulation would have every conceivable tool if he (or she) had both cartridges.

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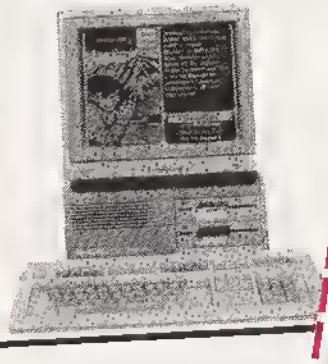

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Getting into Text Editors - QED1

by Andrew Leniart

I HAVE PLAYED around with a few text editors available in the public domain, and never went any further with them than just that, playing around. I like an easy to use type editor which doesn't require me to memorize its functions and one that has all the features which I have come to enjoy so much on the Amiga.

Features like pull down menus, the ability to position the cursor with the mouse, keyboard shortcuts and word wrap etc. This being the case, whenever I wanted to write or edit any text files other than my startup-sequence, out would come my word processor to do the job, as it has all those features. Until now that is!

The *QED Amiga Text Editor* by Darren M. Greenwald is just the thing which I have been looking for. This little beauty has nearly all the power of an average word processor, without any of the hassles! It will operate from any disk, takes a fraction of the time to load and will format your text in any which way you choose. It even has a print feature built in.

Naturally, if what you want to do is write a fancy letter with various font styles and perhaps import some graphics into the work, then you wouldn't be happy using this type of text editor. However, if what you are after is something to write straight ASCII text files or programs with, then I don't know of a better choice than this.

Compared with ED

● To really appreciate the power of this little beast, what you need to do is compare it with some similar efforts. The PD ones are all too numerous to discuss here, so let's compare it with one which we all have on our WB disk, "*ED*". (That's if you haven't deleted it yet to make space on your disk!) Anyway, Commodore supplied all users with two text editors which normally reside in the "c" directory, those being *ED* and *EDIT*.

I have never really been able to come to terms with how Edit works, but I did manage after some considerable time, to figure out the basic principles of *ED*. What *ED* has been designed to do as I understand it, is to edit and/or create text files which when saved, are saved as straight ASCII text files. The usage for this type of editor varies from creating batch files such as a startup-sequence to editing or creating actual programs. Any similarities between *ED* and *QED* end about there!

When working with *ED*, the user is in what I consider to be a user unfriendly environment. There is no on-line help, the mouse is not active and there are no pull down menus with which to select functions. All functions are performed using the keyboard and if you happen to forget which keys do what, the only way you have of reminding yourself is to look through the manual. Also, should you need a printout of your work at any time, you need to exit the editor and go through the motions in CLI to achieve your goal.

QED

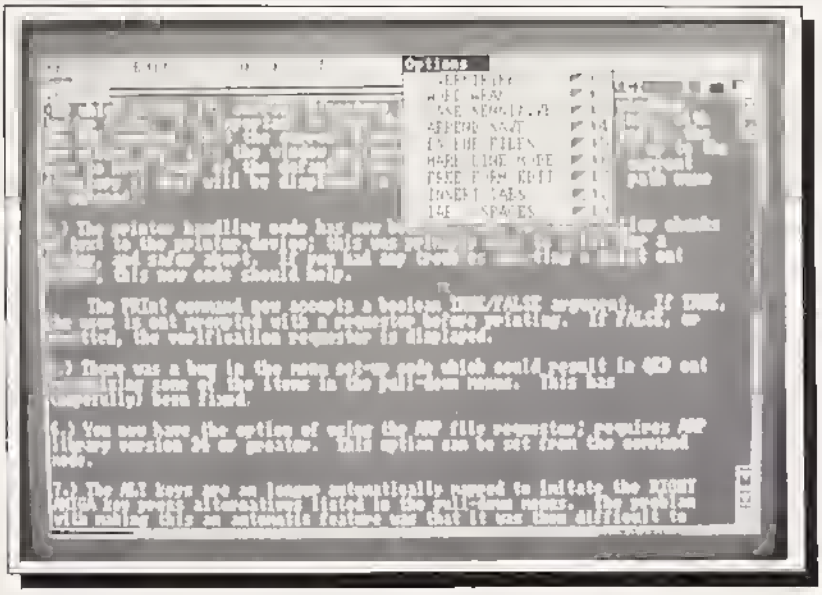
● Now let's compare that with *QED*. On the first point they stand the same, but there is a difference. Most *ED* users would, in my opinion, frequently use an on-line help feature if it was there. While working with *QED* however, the setup is such that the need for on-line help is not so great. The mouse IS active and can be used to position the cursor anywhere on the page as required. You can also use the mouse to scroll through a document up and down as well as side to side.

As *QED* has pull down menus, the mouse can also be used to activate any of the many capabilities of *QED*. All of the menu items have keyboard shortcuts available for them, and if you happen to forget which keys to press, all you need do is activate the menu bar to remind yourself! Should you need a printout of your work, select 'print' and you have it. Taking all the above into consideration, I don't think that many would argue the point of which is the better editor in *ED*'s favour.

The features described above merely scrape the surface in explaining the power that you have at your finger tips when working on text with *QED*. I have made no mention of the way you can work on several text files at the same time by opening more than one window from within the program, or of how you can load various text files by means of the very familiar file requesters. Editing the files you are working on is a breeze with the cut and paste set up *QED* has that works on the same principals as word processors do.

You can delete words or whole lines at the touch of two keys, and should you accidentally delete something you didn't want to, then there is even an UnDelete feature there to get you out of trouble. Other features include Word Wrap, Overstrike mode, search and replace words, Tab settings, Screen color options, Right margin set and insert modes. And the list goes on...

To fully explain what *QED* has to offer would require much more time and space than is available in this review. Detailed documentation on the program's capabilities is given by the author and are on the disk with *QED*. I obtained my copy from Megadisc on the Amigan #23 utilities disk, and have not looked back yet. As a matter of fact, I liked it so much that I now do all my writing using *QED*, and only use my word processor to check spelling in long articles etc. So do yourself a favour and check this one out. You won't be disappointed! ❑



Where to get yourself a swag of text editors!

● Since these things are largely a matter of personal taste and peculiar editing requirements, Andrew Leniart has assembled a collection of all the best Public Domain text editors onto one disk. The disk includes a couple of spell checkers, a word count utility and a good cross section of all the better text editors complete with the usual on-disk-docs. To get a copy see the Prime Artifax ad in this issue or order over the phone on (02) 817 0011. All our special theme disks are $8.95 including postage. Standard PD disks such as Fred Fish or Amicus disks are also available. ❑

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Minimegs vs ProRAM

Expanding your A500's memory

by Peter Ward

THERE IS NOTHING more frustrating than after having painstakingly developed a complex *Deluxe Paint III* animation, *Videoscape 3D* motion file or *Sculpt 4D* scene, to have your Amiga 500 blink at you and say "NOT ENOUGH MEMORY FOR REQUIRED OPERATION". Trying to reduce the complexity or duration of your creations is one solution, and not all that long ago up-grading to an Amiga 2000 was yet another expensive alternative.

Fortunately third party developers have realized the potential of the humble Amiga 500 and both MAST and Imtronics have produced expansion modules for the Amiga 500.

ProRam 1.8

The Imtronics ProRam 1.8 comes supplied with xeroxed instructions, and consists of two circuit boards plus a disable cable-switch combination. For users wishing to add half a megabyte only to their A500, installation is simple. The ProRam 1.8 simply plugs into the A501 expansion slot situated on the underside of the computer. Additional expansion however is more difficult.

To install either 1.0, 1.5 or 1.8 megabytes of additional memory into your A500 using ProRam 1.8, you will need to open up the case of your Amiga. The manual does state that this will void your warranty, but having done so, it takes you through the necessary steps to install the memory board. The first hurdle you will then strike is "remove the six screws from the case of the Amiga". Now in case you haven't noticed, the case screws used in your Amiga 500 have "Torx" heads.

I don't know about where you live, but Torx screwdrivers are as scarce as hen's teeth around Sydney-town to say the very least! Fortunately I picked up a Torx screwdriver set from a Sears department store on a recent trip to the USA, however I would not recommend jetting off to America just to buy a $5.95 screwdriver set. I'm told a 2mm allen key is a much cheaper alternative.

Having finally gained access to the inner workings of your A500, you are then instructed to ever-so-gently remove the Gary chip on the motherboard, and insert the Gary adapter board of the ProRam 1.8. The main memory board goes in the A501 slot, as before, with the user installing additional 256K memory chips to populate the board to the required level.

When installing any component on the motherboard of any computer it pays to ground yourself, computer and tools, as any static charge could easily "Zap" critical and sometimes very expensive components. This important note was not mentioned with the ProRam instructions.

Using the ProRam 1.8 does leave your Amiga 500's expansion bus free for hard disk installation, a feature I rather like. The presence of a disable switch also allows the board to be used with older games and software which does not support expanded memory. The user can also easily populate the board up to its maximum of 1.8 megabytes by simply plugging additional ram chips.

There are however some drawbacks with the ProRam 1.8 board. Firstly it does not support the new Fattest Agnus, so you will not be able to address one megabyte of chip ram. Also 1.0 and 1.5 megabyte populations will not run under kickstart 1.2, with the only fix being to use version 1.3, and as stated before, you will have to void your computer's warranty to install the board.

Minimegs

Memory And Storage Technology, based in Sydney, have produced the Minimegs series of memory expansion for use in either A500 or A1000 machines. While comprehensive instructions are given, installation is very simple. Turn your Amiga off, plug the Minimegs into the expansion bus on the left hand side of the computer, then power on. Simple, neat and efficient, just how it should be!

The board "auto-configures" - simply put, your A500 will automatically recognize the presence of additional memory. If you are handy with a soldering iron, it is possible to populate the board yourself, MAST discourage this and for for a small fee, will further populate the 1/2 and one megabyte models should you wish to add more memory at a later date.

The unit tested was the Minimegs 2 megabyte board, and proved fully compatible with the A501 module giving a system total memory of 3 megabytes.

The acid test with the Minimegs came when I reconfigured my A500 to access one megabyte of chip ram: would it be supported? I ran *Deluxe Paint III, Sculpt 4D, Photon 2.0, Deluxe Productions, Videoscape 3D, Audiomaster* and just about every every other chip ram sensitive program I could find, with no problems at all. Hi-res, PAL overscanned, 16 and 4096 colour animations were no problem. On the down side, the Minimegs does take up the expansion bus of the A500, so only hard disks which use either the parallel port or which have a bus "pass through" can be used.

Despite this I preferred the Minimegs over the ProRam 1.8 as it allowed a larger total memory expansion (3 megs compared to 2.3) for the A500, was easier to install, and supports one meg of chip ram.

Whatever unit you may eventually choose, having those extra megabytes makes a world of difference, transforming the Amiga 500 from a "games" machine to a real graphics powerhouse.

Minimegs from **MAST** (02) 281 7411, RRP $499 for 2 megabytes fully populated for both the A500 and the A1000.

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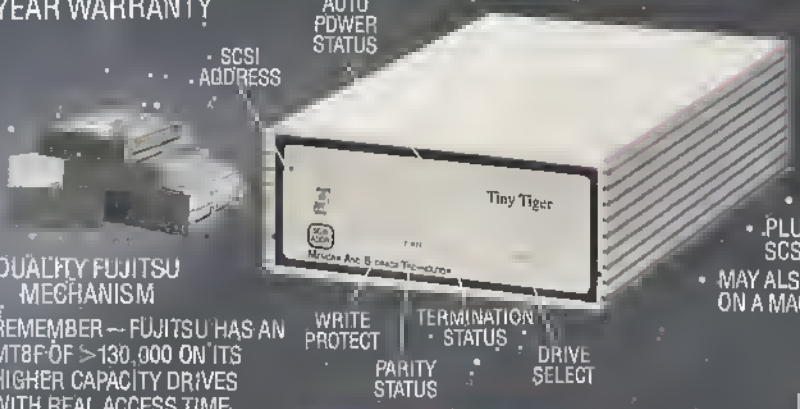

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Skylarking with Distant Suns

by Peter J. Ward

I MUST CONFESS I have two main vices: computers and astronomy. I grappled with spherical geometry and Amiga Basic, but, until the release of a program called *Galileo 2.0*, these two interests did not have an easy co-existence. I considered myself as one of the lucky ones having a copy of *Galileo 2.0*, as the program eventually became extinct on dealers' shelves.

While looking over the contents of a BBS I discovered a public domain program called *Geotime* by Mike Smithwick, the man who wrote *Galileo*. A poster attached to *Geotime* had an address, so I decided to send a letter to the USA. Within ten days I was given a reply to why the demise of *Galileo*. PIRATES TAKE NOTE OF THE FOLLOWING! Simply put, the publisher went broke!

I am pleased to report however that what would have been *Galileo 3.0* has now quantum mechanically tunneled through to our universe to be called *Distant Suns*. Published by Virtual Reality, it is THE astronomy program for the Amiga. It comes in a neatly packaged 3.5" floppy disk with a very thorough manual, consisting of 64 pages of text plus seven Appendices.

The program has copy protection in the form of a "Key Word" from the manual, so that it may be easily backed-up or installed onto a hard disk. I first used this program during its early days as *Galileo* version 1.0, and frankly was not all that impressed, due to slow screen updates and poor accuracy. I am pleased to say however, that *Distant Suns* has ironed out many of the problems initially encountered and has made this program a joy to use and for general planning of a night's observations at the telescope.

> "Perhaps the best astronomy program available on any computer"

Why limit use of the program to general planning of a night's observations? As with all software of this kind a "television picture" of the night sky can't really compare with the real thing. Another problem is that despite *Distant Suns* being, in terms of its graphics, perhaps the best Astronomy program available on any personal computer, it still falls short of being a serious observational tool for use prior to a night at the telescope due to having a database of only approximately 2200 objects.

To alleviate this problem extra data disks are available from Virtual Reality. The *Yale Bright Star Catalog* for $US18.00 gives you 9100 stars. The *SkyMap Catalog* requires 1 megabyte of memory and 1.35 Megs of Hard Disk space ($US25.00) and brings you up to 20,000 stars but still not enough to create a serious chart to be used alongside a telescope. Now if you are still not convinced, *Sky Atlas 2000.0* has about 43,000 stars with 2,500 deep sky objects and *Uranometria 2000.0* has 332,556 stars alone! Despite such limitations, an extra Image Disk ($US30.00) is also available. The latter makes images of 215 different galaxies and nebulae accessible to users of *Distant Suns*, just the thing for cloudy nights!

The manual carefully guides novice users through the various program features, and also manages to give a good introduction to Astronomy and Telescopes in the process. After setting the date, time and location of the observer, the program gives good accuracy for both planetary and stellar positions, as well as rise and set times of the Sun and Moon.

Calculations are based on Duffet-Smith's "Practical Astronomy with your Calculator" and "Astronomical Formulae for Calculators" by Jean Meeus. These formulae give reasonable accuracy within about 400 years from the present. Higher accuracies in future releases are hinted at in the manual; for the time being however, speed of computation has been deemed as being the over-riding factor.

In addition to giving a view of the constellations with fields of view varying from 15 to 180 degrees, *Distant Suns* allows the user to view the phases of Mercury and Venus, the rings of Saturn, phases of the moon and spots on the sun by using a "telescope" option. There is also the ability to depict retrograde motion of the planets and, with appropriate use of observer location and time, viewing of Solar eclipses. There is also a very handy nightly summary page entitled "What's Up?". This gives the rise and set times of all the planets, sun and moon, the phase of the moon, the current Julian

Date and the name and date of the next major meteor shower.

Some rather nice additional program features are fast screen refresh and user defined data, which allows the user to add additional information to the database such as a newly discovered comet or supernova. To illustrate the point, the program has several "user objects" . Yet another feature is point and centre, which means that should you have a particular patch of sky, simply place the mouse pointer on that location, click the mouse, and the screen will be updated, centred around the new point.

Identify is a feature which allows you to place a set of crosshairs over an object of interest and have it identified. This last feature also has a print option, which I have found to be the most useful function of the program. By using it I print out a list of nebulae and galaxies which will be favorably placed during the evening with their respective Declination and Right ascension co-ordinates. Observations through my Meade 10 inch SCT are then a lot easier to plan being conveniently listed on one piece of paper.

Distant Suns allows multiple menu item selection and several viewing modes, including a "landscape" mode which places a local horizon on the starry sky. However, the program appears to only use a limited number of stars in this mode, which is a shame as "landscape" perhaps best helps a novice observer to identify a star against a known bearing on the real horizon. This mode is further enhanced by an additional menu item called "twilight" which simulates the ever darkening sky as the sun sets. Planetarium mode has access to the full database of 9100+ stars (when additional data disks are used), and can display declination and right ascension reference marks against the sky as well as constellation outlines.

Distant Suns also has a feature which allows you to "look down" on the solar system on a particular date. This gives a diagram of the solar system with the planets in their respective orbits and positions for that date, with problems of scale being sorted out by only being able to select views of the inner, middle or outer solar system at any one time.

This mode can also be used with a tracking feature which shows how the positions of the planets change over a period one month before and after the specified date. The screen display can also be made to update the sky from zero to one hundred times the real time rate, thus allowing you to literally watch the night sky roll by, however, all other functions of the program are held up during updates, and this does become tiresome.

Where *Distant Suns* really excels is that you could consider it to be a "front end" to the Yale bright star catalog or SkyMap Catalog databases. With these extra data disks one can obtain information about the name of a star, whether a the star is a variable, its B-V colour, the distance in light years, its magnitude and spectral class all in a matter of seconds.

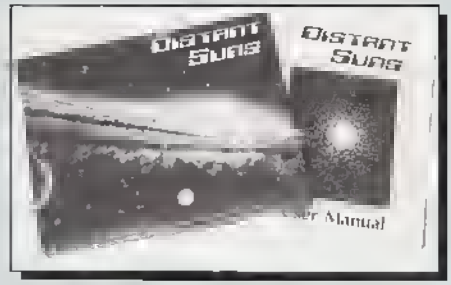
The program does allow you to save any screen currently displayed as an IFF file, which can then be used in most third party graphics programs and hence the ability to add text to the display and print a star chart is indirectly available. Despite the memory constraints involved, I would have preferred to see the ability to directly print a star chart. *Distant Suns* thus used would be perfect for preparing a "star-hopping" finder chart for tracking down Messier or NGC objects - especially if a mirror reversed chart could be printed (read: not so subtle hint for Version 2.0!).

Distant Suns for the Amiga, though not inexpensive (about $80.00 locally), is certainly less than the cost of a good quality eyepiece It is a very comprehensive astronomy program. While the planetarium display is limited to approximately 9100 objects for non hard disk users, one must remember that even this number requires one megabyte of memory to display, so that more stars would be prohibitive in both cost and computing time, given the current state of the art in home computer technology.

The program does give a good overview to the night sky and is a good supplement to a quality star chart, though not a replacement.

Galileo owners have not been forgotten. Post your original system disk to Mike Smithwick 25215 La Loma Drive, Los Altos Hills, CA 94022, USA, plus $US17.50 and an upgrade to *Distant Suns* will be sent to you here "downunder".

Distant Suns is certainly great fun to use and comes well recommended to any amateur astronomer owning an Amiga.



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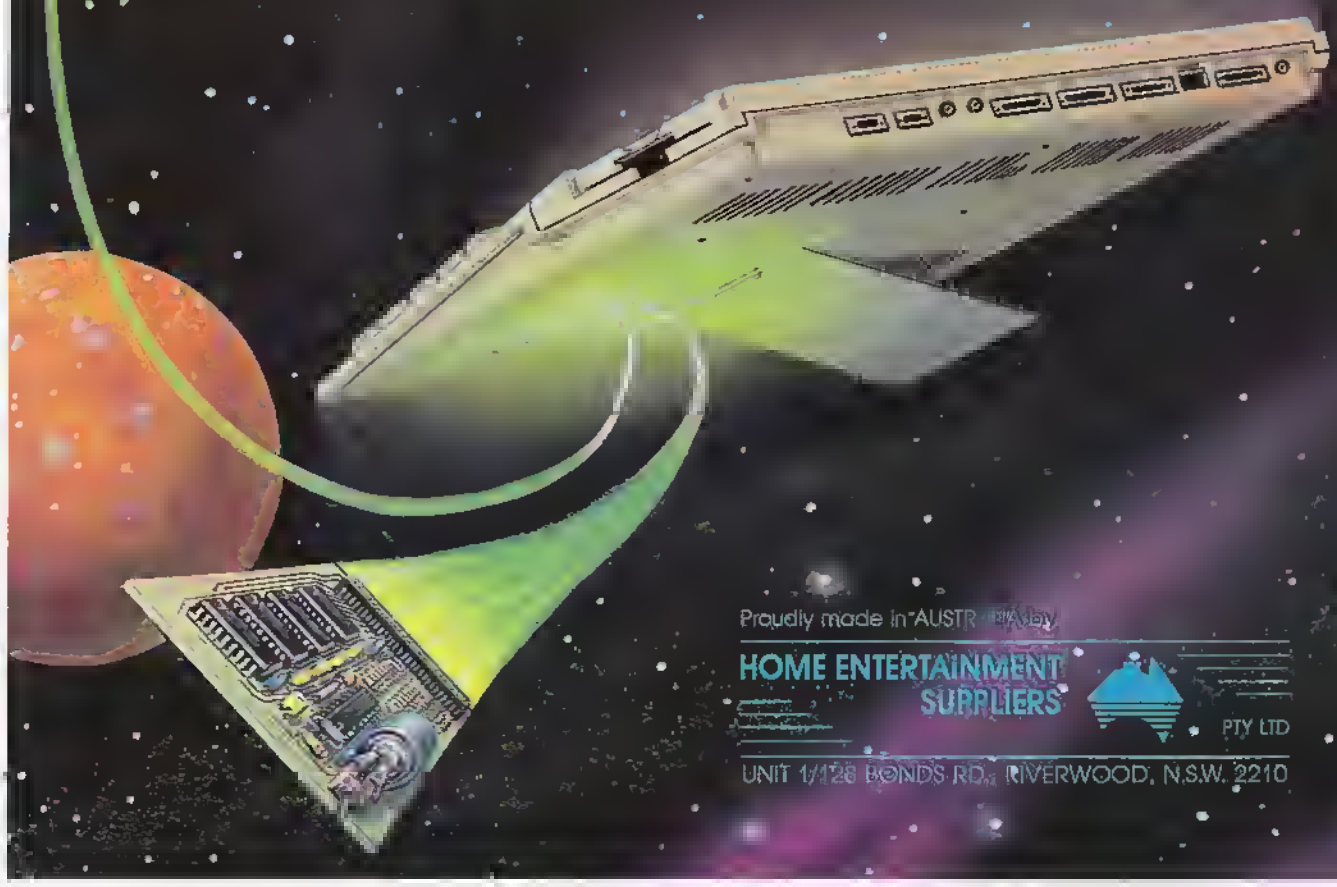

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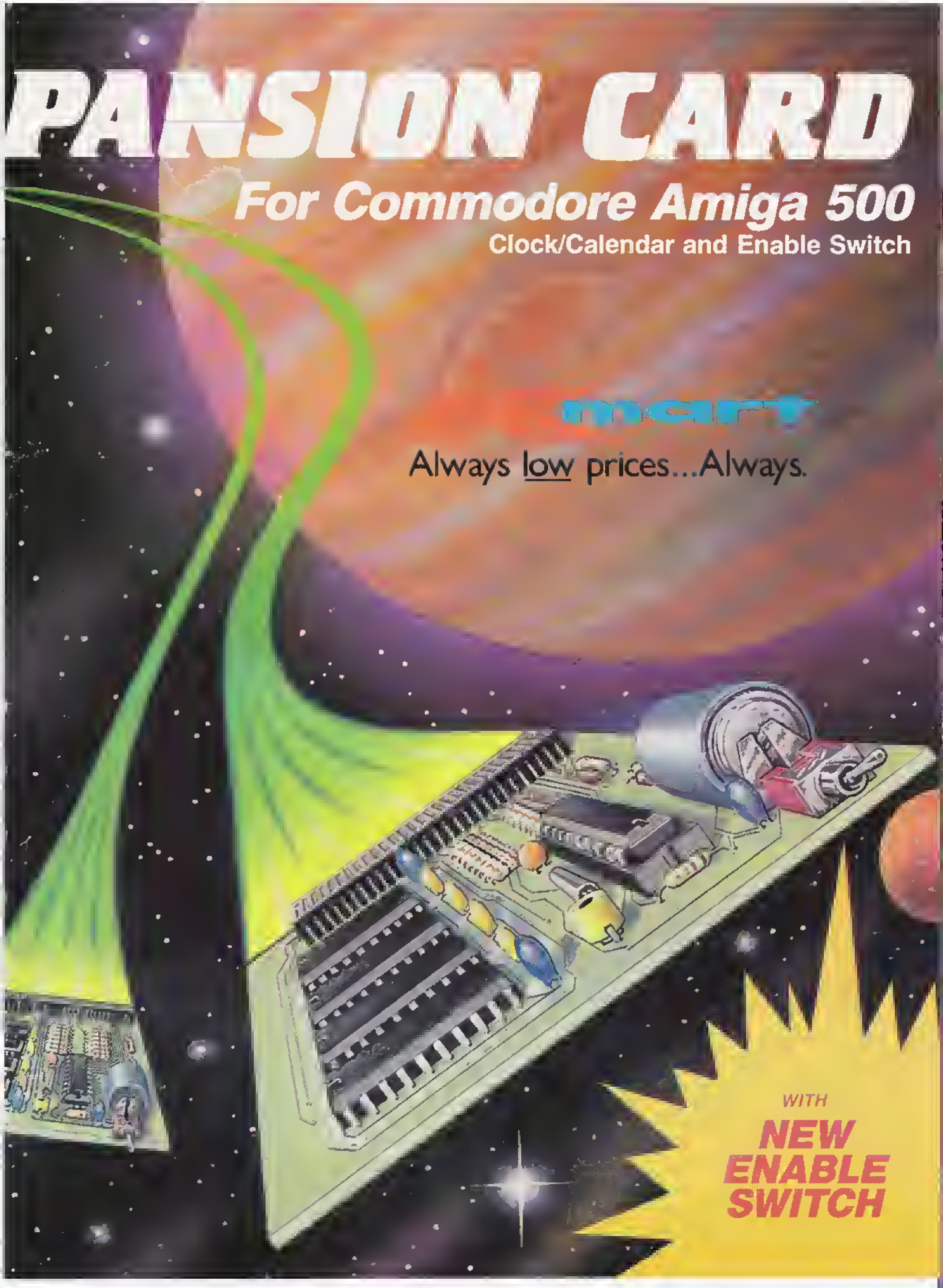
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Coming to grips with the *Amiga's* CLI

a tutorial for beginners

by Andrew Leniart

WELCOME TO OUR new on-going series of articles aimed at helping the beginner to understand and use the Amiga's Command Line Interface.

Many times I have read the pleas of people asking for help in various magazines and saying that no one seems to be catering for the utter beginner to the Amiga with clear and easy to understand explanations of the way it operates. But strange as it may seem, this type of thing seems to be one of the hardest things to write. However through these pages and over the following months, I will try to do my best to change that!

When you first boot up your Workbench at the hand prompt visible when the computer is first switched on, you end up in the very easy to use and user friendly environment of Workbench. Soon though, you discover that things don't always seem to work the way they're supposed to in Workbench. You might click on an early Fred Fish disk icon and find that the drive spins, a window opens and then ... nothing!

The reason that you don't see anything does not mean that the disk has nothing on it. On the contrary, the disk's fuel gauge verifies that the disk is chock-a-block with stuff. So where is it? Well, it is there, it's just that you can't see it from Workbench because there are no .info files (or Icons) attached to the programs within. To see these files we must use the Amiga's other form of communication being of course the CLI.

So what's the CLI then?

● The CLI or (Command Line Interface) is an alternative and much more powerful way to communicate with the Amiga than that of the Workbench. In order to use the CLI, you must first bring up a CLI window by double clicking the "Shell" icon from Workbench for 1.3 WB users, or the "CLI" icon which is located in the system drawer of the 1.2 version of your Workbench diskette.

Once you have done that, a window appears with a 1> prompt or similar, indicating that the machine is ready to accept your commands. Yes, you as the master and the Amiga as the slave, are now in a position to use just about any of the many capabilities which the Amiga has to offer. But first you must learn how to talk to the Amiga.

Computers have a lingo of their own and can't understand the simple English language as we know it. So typing in something like "Tell me what's on the disk I just put in the drive" would simply cause the Amiga to immediately spit the dummy and throw back a "Unknown Command" statement at you in disgust.

So when you see the 1> prompt in the CLI, you now know that to communicate successfully with this machine, you must use the language it understands. This language consists of a number of Commands supplied with your work disk and which happen to live in the C directory of your Workbench diskette. Get the drift? Don't worry too much if you're still a bit confused, we'll be going into this in more depth a little later on.

Computer commands

● Computer language consists of a number of pre-defined commands programmed by the makers of the Amiga for the purpose of allowing you to control the machine and make it do what YOU want it to do. Let's have a look at those commands now and see what they look like.

If you are not already in a CLI, open one up now and re-size it to make it as large as possible by using the sizing gadget found at the bottom right corner of its window. Now type the following commands exactly as shown and pressing return at the end of each line:

Cd c
Dir

If you followed the instructions correctly, you should have ended up with a screen full of file names which are in fact all of the commands available to you with which to manipulate the Amiga. Look through them closely and you'll find that the two we used, Cd and Dir will also be there. So what do they all mean?

CD

● Well, the two in our example perform the following functions.

Cd changes the current directory to the "c" directory of our work disk. In other words, "Cd c" tells the Amiga to change the current directory which we are in and make directory "c" the current directory. Note also that Cd is the command we use to make any directory the current directory on any disk.

So if we wanted to change to a directory named "Utilities" which was on a disk we had in drive DF1: then we would simply need to specify the PATH we wanted the Amiga to follow in order to find this directory. (ie. Cd DF1:Utilities) This would effectively make the Utilities directory in DF1: the current directory. To get back to the Root (or main) directory which we started in, all we would need do is type CD DF0: and we would be there.

Note that to find out which directory you are in at any time, all you need do is type Cd on its own. So if you typed Cd directly after our example above, the system would respond with the current directory at that time (ie. Workbench:c).

There are also various short cuts available in AmigaDOS which enable us to achieve exactly the same thing by using slash characters such as Cd / which effectively moves you back one step towards the root directory, or Cd ; which takes you straight back to the root directory you started from. However to avoid confusion at this early stage, these will be explained in more detail in a later instalment of this series.

DIR

● The Dir command instructs the Amiga to display on screen the contents of the directory we are currently in. There are also many other Options available to us when using this command. Try this:-

First get back to the root directory of your workbench disk by issuing the command < Cd DF0: > Then type < Dir opt a >. The Opt a (or Option a) qualifier tells the Amiga to display ALL of the files and directories in the current disk. You can view every directory and every file on the disk with this option.

However this option also causes the screen to fill and scroll very quickly making it hard to read everything. This is easily solved by pressing any key on the keyboard, which will effectively stop the screen from scrolling. All you need do to re-commence scrolling is to press the backspace key when you are ready.

Another option is < Dir opt d > which results in the Amiga displaying only the directories available on a given disk. So as you can see, each command in AmigaDOS has various potentials and options which you can use to your advantage.

To get a list of all the options available to you for any Dos command, all you need do is type the command followed by a question mark. For example < Dir ? > would make the Amiga display the argument template for dir command which would look something like this:-

Dir,OPT/k,SIZE/s,INTER/s,HILITE/s,FILES/s,DIRS/s,ALL/s:

on a 1.3 Workbench system disk.

So now you should have a general idea of

(continued on page 40)

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what a computer command is. One thing I neglected to mention before is that it does not matter whether you Issue commands in UPPERCASE, lowercase or MIXEDcase in AmigaDOS. In other words, DIR dir or Dir would all still work.

Now let's apply our knowledge by finding out what was on that Fish disk without icons which we were talking about before.

Single drive users take note

● If you don't have an external disk drive connected to your Amlga yet, then you will be seriously disadvantaged when trying to do any number of operations when using your machine. An Amiga with one drive is like a skateboard with the front wheels missing, you can still ride, but it's not going to be smooth and easy.

If you don't quite understand what I'm talking about, try this. Open up a CLI from Workbench and then remove the disk. Now insert a Fish disk (or any olher disk) and type the command <Dir>. You will find that the Amlga requests that you re-insert the Workbench disk into drive DF0: Follow lhe Instruction and watch whal happens...

Got a llsting of the Workbench disk, right? The reason thls happens is due to the way that the Amiga only loads commands from disk as they are needed. If you had a second drive, you would merely have put the other disk In DF1: and typed the command <Dir DF1:> and you would have gotten what you wanted. That was but a very simple example and I don't want lo go into this at any great depth here. However suffice to say that once you experiment a bit yourself, you will soon be convinced.

So what's the answer? Unfortunately, lhe most sensible solution to solving this problem is to fork out some hard earned cash and buy that second drlve. But while this may well be the most sensible solutlon, lt may not always be the most practlcal lf llke most people, you don't have a spare two or three hundred dollars to spend. There is another way which will serve an an interim measure until you can get that second drive.

Setting up a ram disk

● In order to be able to vlew other disk's contents when working In the CLI, lt will be necessary for the single drive user to create a c directory in ram and copy the commands necessary Into lt. How many commands you place in ram ls up to you and you are limlted only by the amount of memory you have available.

For our purposes, the following llst will meet our needs without draining the system of an excessive amount of memory. Dir, Cd, Type, Newcli, Endcli, List, Run, Execute and Asslgn. This ls how to do lt.

From a CLI, first type the command < Makedir ram:c >. Makedir does what its name suggests, lt makes (or creates) a c directory in ram. We can also use this command to create a directory of any name on any disk. Now to copy the necessary commands to ram:c the following procedure can be used,

Copy DF0:c/Dir to ram:c
Copy DF0:c/Cd to ram:c
Copy DF0:c/Type lo ram:c

and so on, each time substituting the command after DF0:c/ to whlchever one it is that you want to copy. Once you have finished copying all the commands over to ram, you need to tell the Amiga that you want it to use the commands in ram rather than from Workbench and best way to achieve this is with the help of the Assign command.

Assign c: ram:c

Having done that, you are now In a better position to view the contents of any other disk without having your Amiga continually complain that lt needs the Workbench disk.

Now while the above does get you out of trouble for the time being, don'l forget that each time you copy a command or anything else to ram, you are using up memory. So if you only have a basic Amiga with 512K of memory, things can soon start screwing up when you try to start a program that needs all the memory you've got.

Also, don't be fooled into thinking that getting a memory expansion unit such as the A501 will cure the rest of any other problems associated with one drive either. While it certainly does help, a memory expansion ls not as important as a second drive. (Well, not in my opinion anyway!)

Lastly, to get your precious memory back when you've finished workIng with the CLI and bring the computer back to lts original state, all that is necessary is lo Delete everything you put in ram and reasign C: to Sys. The following steps will achieve thls result. First lype

Assign C: sys:

and the Amiga will ask you to put Workbench back into drive DF0: Follow this instruction and then just use the delete command to remove all the contents in ram. One way is to do thls:

Cd df0:
Delete ram:c all

and the Amiga deletes all the files In ram:c as well as the C directory itself. You now have all your memory back and are back to where you started before you set up a ram disk.

Note that the reason we first changed the current directory to be DF0: ls because the Amiga would not have deleted c: in ram if we were still in its directory. More on why this happens will be discussed another tlme.

Checking out some other disks vio CLI

● Now that we are all in a position to use other disks conveniently, let's check some out. If you have any Public Domain disks whlch do not show Icons when opened on Workbench, insert one of them now. To see what the disk contalns we would type Dir DF0: or Dir DF1: for twin drive users. This gives you a listing of the root (or main) directory of the disk In the drive specified. To see everything on any given disk remember our options when using this command. (ie. opt a)

But what is all this stuff that's coming on the screen? Well, if we look at say a typical Fred Fish PD disk, one of the files you would get would be a "Readme" or "Contents" file. (Ignore anything with the .info extension. These are icons relevant to the particular file with the same name should it happen to have an icon). To see what the "Contents" file contains, we would use the Type command.

Type contents

● That would cause the Amiga to begin to scroll the information in the Contents file on the screen. As before, you can pause the scrolling at any time by pressing any key on the keyboard and re-start it with the backspace key. If you're lucky enough to have a printer hooked up to your Amiga and would like a print-out of the file, then try this:

Type Contents to prt:

Just don't forget to make sure you have the correct printer driver set up in preferences before you try the above!

Other typical things on the disk would naturally be programs of some type and these are usually contained in their own directory. You can easily recognize a directory in the CLI because the Amiga lists it with a (dir) displayed next to it. Change lo any directory you like via the Cd command I showed you earlier. You should be starting to get the hang of moving around when in the CLI by now, so dig around a few disks and see what there is to see. Soon you will begin to realize just how much gear some of these disks contain.

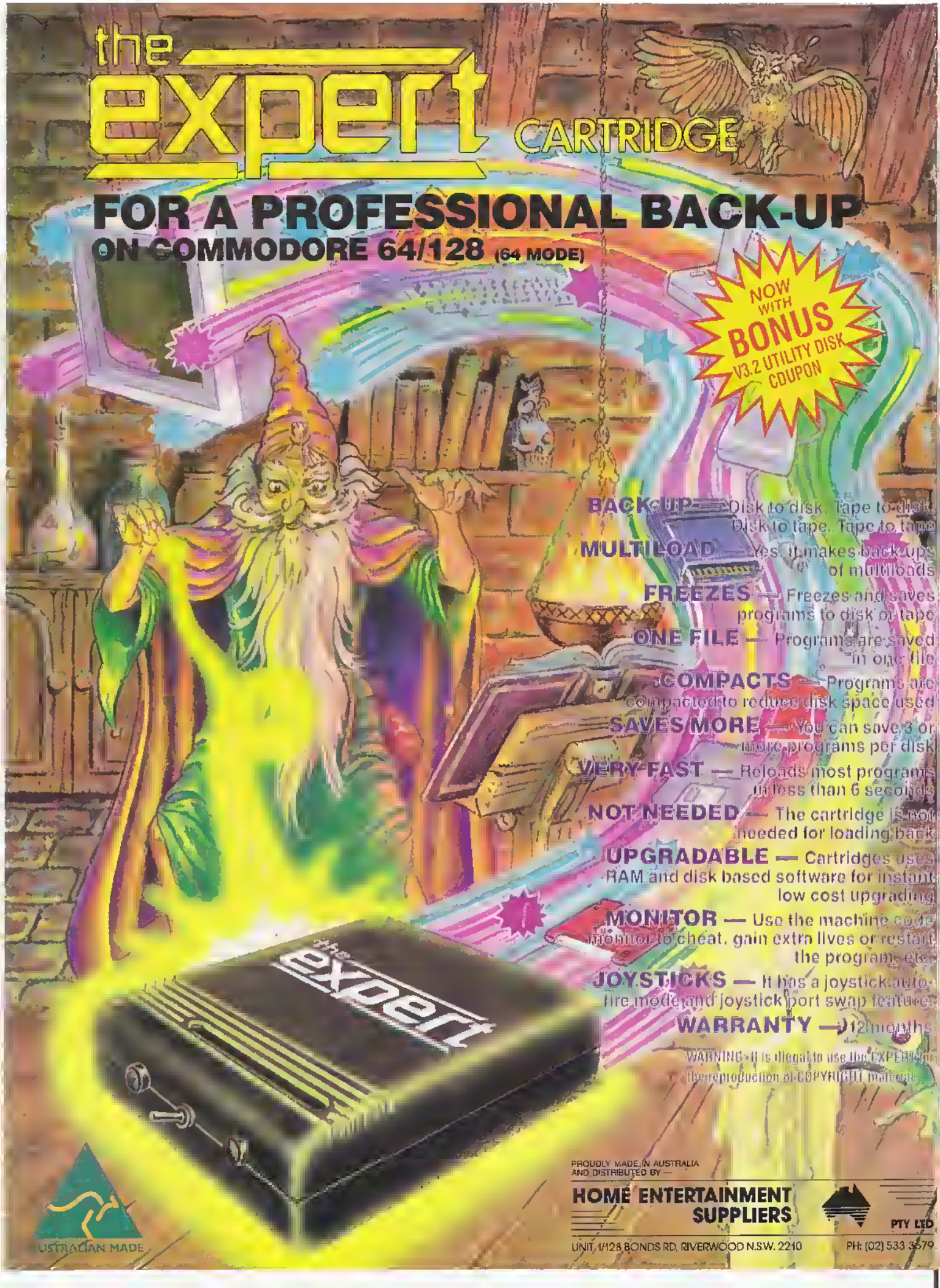
So how do you recognize which file is a program and whlch file is not? After a while you will get used to recognizing which files are executables and whlch aren't. But as a rule of thumb guide to get you started, Text files usually have a self descriptive name such as "ReadMe" and Doc (or instruction) files normally have a .doc extension on them. Executables or programs usually have no extension on them at all.

A final note when using the Type command. If you ever try to type a file and just get garbage on the screen, then chances are that the file is a program which has been compiled or sometimes a text file which has been Crunched in order to make it use less space. You can stop the garbage from displaying on your screen simply by pressing <Ctrl-C> on your keyboard which will cause a BREAK message to appear. You can then continue on as normal. Note that you can stop most CLI commands from executing further using this method as well.

List instead of DIR

● In AmigaDOS, we have at our disposal another way to view the contents of a disk or directory other than the Dir command. List will also give you a display of a disk's contents

(continued on page 42)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as well as important file information that Dir doesn't show. Try this with Workbench In the drive:

List Df0:
You should end up with something like the lollowing displayed in the Cli if you used Workbench 1.2 ->
Directory "df0:" on Sunday 18-Oct-87
Expansion.info 346 rwed 02-Mar-87 23:29:10
Trashcan Dir rwed 02-Mar-87 23:29:10
.info 82 rwed 09-Jun-87 12:43:46
c Dir rwed 02-Apr-87 09:44:21
Clock.info 338 rwed 02-Mar-87 23:31:49
Demos Dir rwed 15-Apr-87 07:57:18
Clock 19668 rwed 02-Mar-87 23:32:20
System Dir rwed 06-Apr-87 15:11:06
and so on until the last line which would look like ->
12 files - 13 directories - 196 blocks used

So what's all this then?

● The LISTing on the left side of the screen is the names of the files and directories contained in the disk in drive df0: The next entry to the right tells us either the size of the file being displayed or the fact that the entry is a Directory. The rwed (or hsparwed on WB 1.3) gives information in regards to the protection bit status of each file. (More on Protection Bit Status in the next installment of this series) And lastly the next two entries show us the Date and the Time of when the file was first created.

You are not restricted to listing the whole contents of a disk or directory with this command. For example to just get the specs on the Clock, you would type < List df0:Clock > and the Amiga would respond with the display:

Clock19668 rwed 02-Mar-87 23:32:2

So as you can see, once you begin to communicate with your machine in a language it understands, the Amiga begins to co-operate with your requests or demands quite readily and begins to behave itself in the way that you want it to.

Conclusion

● That should give you a bit of a taste of things to come when working in the CLI. It may all seem quite complicated at the moment and look like a hell of a lot to learn and remember, but if you just take your time, try the examples and experiment a bit, then you should find things making themselves clearer in no time.

We have now reached the end of this attempt at a beginners idea of a tutorial for using the CLI. How did I do? Well, if you have any suggestions, criticisms, things you would like to see explained or used five dollar bills, please post them to the editor ASAP! I found writing this piece a lot of work, but also a lot of fun and one of the rewards of writing is watching and reading for people's feedback later on. I hope you gained some mileage out of what was put in here. ❑

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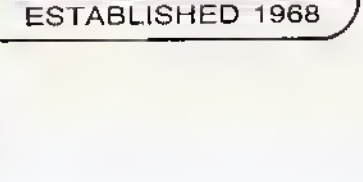

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All about sprites

by Nick Van Heeswyk

THE C64 HAS a good range of sprite capabilities in Basic. You can have up to eight sprites on the screen at once all doing different things.

A few points on sprites

- A sprite is made up of 63 bytes of data.
- It is capable of sprite to sprite collision and sprite to background collision.
- Sprites can be moved in any direction like a single character.
- A sprite can be made larger in both X and Y co-ordinates.
- Sprites can be made up on a 3 by 21 grid.

Well, that's few Basic points, now type and run this program.

```
10 V=53248:POKE V+21, 1
15 POKE 2040, 13:POKE V+39, 1
20 FORJ=0 TO 62:READ X:POKE
832+J, X:NEXT
25 FOR XX=0 TO 255
30 POKEV+0, XX:POKEV+1, 100
35 NEXT XX:END
40 REM SPRITE DATA
45 DATA 0, 0, 0, 0, 0, 0, 8, 0, 0, 8, 0, 0,
63, 255, 236, 63, 255, 246, 63, 255, 224
50 DATA 63, 255, 224, 0, 41, 224, 0, 45,
224, 0, 37, 224, 0, 33, 224, 0, 63, 224
55 DATA 0, 1, 224, 0, 1, 224, 0, 0, 240,
0, 0, 240, 0, 0, 240, 0, 0, 0, 0, 0, 0, 0, 0, 0
```

Once you have typed in and run this program, you should see a Gun move from 0 to location 255.

Now I'll go through all the lines.

Line 10: Assigns V to the video chip and turns on sprite 1.

Line 15: Puts sprite 1 into block 13. Gives the sprite a white colour.

Line 20: Reads the sprite Data.

Line 25: Starts up a loop.

Line 30: Gives sprite 1's co-ordinates to XX. Puts sprite 1's Y co-ordinate to 100.

Line 35: Loop continues to 255 then ends.

Line 40: The sprite Data.

To give the sprite twice the magnification type in the following line.

```
17 POKE V+23, 1:POKE V+29,1
```

Now run the program again. Now the sprite is twice as large. If you would like to change the sprites colour, simply list line 15 and where it has POKE V+39, 1 change the one to any number between one and fifteen.

If you would like to make up your own sprites follow these instructions.

1. First draw up a grid 24 by 2 then divide it into three sections. Down the Y column label it 1 to 21. In the three parts you have divided it into write these numbers in each box: 128, 64, 32, 16, 8, 4, 2, 1. Now these become the three bytes. Colour in the squares to make up your picture.

When you have finished with your picture add up the bytes. Eg: if a square has been coloured in and the number above it in the X axis is 8, then add 8 onto the byte. Once you have worked out all the numbers, the numbers become the data. Now type in your data over mine and see if it works. If not try again.

To turn on a certain amount of sprites you add up their values. Eg:

Sprite	Value	Colour area	X, Y co-ordinates
1	1	39	0 and 1
2	2	40	2 and 3
3	4	41	4 and 5
4	8	42	6 and 7
5	16	43	8 and 9
6	32	44	10 and 11
7	64	45	12 and 13
8	128	46	14 and 15

Sprites are stored at locations 2040 - 2047

Multi coloured sprites

- To make multi coloured sprites change the eight parts of the bytes into four. Now they become 4 parts in each byte.

There can be up to four colours in each sprite.

1. Background (bit pair =00)
2. Sprites colour (bit pair =11
3. multi-colour 1 (bit pair =10)
4. multi-colour 2 (bit pair =01)

To turn on multi-colour type POKE V+28, values and to turn of multi-colour type POKE V+28, 0 or values.

Sprite collision detection

- First you must assign a variable to the collision detection. Well, put A to the collision detection.

```
A=PEEK (53278) : If A=Values then
print"hit"
```

All the program does is assign A to the collision and when the collision is detected it prints "hit".

Eor sprite to background collision simply change the PEEK to A=PEEK (53279).

If you are having trouble with sprites don't worry, because it took me a long time to figure out how to use them. When I first started it took me half a year to figure how to make eight different sprites appear on the screen. In most computing books you will find a lot of this information. Most books have sprite collisions in them but don't give an example, this is why I wrote this article to hopefully help you with some of the main points.

There is another idea that I have not talked about because it's very hard to understand. I have problems with it also. It is called the MSB register. It allows sprites to move right across the screen. As you would have seen in my short program, the sprite didn't make it right to the other side of the screen. To make the sprite continue to the other side you would have to put it in the MSB register. Most computer books and manuals have this information somewhere.

Here is a hint on making a game with two or more sprites. You must never use loops because while the loop is in progress nothing else will work. You should use a value. Eg: (mo=mo+2). That way everything will continue, but you must put in a GOTO to return to the Value so it keeps moving.

To turn off the sprite on the screen type POKE V+21, 0, and to bring it back on type POKE V+21, 1. ❑

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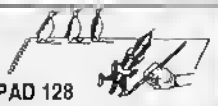

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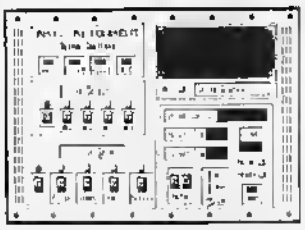

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Using the various windowgadgets

● Some people are unaware of the usefulness of these "gadgets", which include the BACK-TO-FRONT gadget (top right hand corner of any window), SIZING gadget (bottom right corner), SLIDER gadgets (right and bottom edge), ARROW gadgets (above and below the slider gadgets) and of course the CLOSE gadget (top left corner). Some programs have other gadgets, such as the ICONIFY gadget (in the top right corner, looking like a double-rectangle).

So if you're halfway through reading a file, and want to get to a screen or window behind it, you could use the Back-to-Front gadget, do what you want, then use it again to get the first file to the front again. Or you might just click on the ICONIFY gadget (or press the DEL key), which reduces the whole screen to a small icon until you reverse the process by doing the same thing again.

If you ever see a window with the slider gadgets not filling the whole length of the window, then you know that there are icons in that window which you can't see. To see them just drag the sliders to and fro until you can. Or click on the small Arrow gadgets to get a smooth scroll up or down or across. Experiment with the Megadisc window behind this one. All these gadgets are designed to make the limited space on screen more flexible, so make the most of them.

Try these if in doubt or stuck - how do I get out of this?

● There are times when you might be running a program, or an animation, or viewing a graphic, and you're not sure how to get out of it. Sometimes you just can't because the program has crashed, or because the programmer didn't program it correctly, or because the programmer has an eccentric way of doing things. But there are some standard things to try which may work:-

● To exit a graphic, usually clicking in the top left corner will do it.

● To stop a process, press CTRL along with C (and if that doesn't work, CTRL with, possibly, S or D or X or Q or even ESC).

● To exit an animation, try pressing the ESC key.

● To exit a "batch file", such as your Workbench's startup-sequence, simply hold down CTRL and D - you'll see a couple of asterisks and the word BREAK come up on screen and the PROMPT (ie the 1> or something similar) will appear and wait for you to type in a command. Try this when next you boot up with Workbench, and type in DIR - you'll get a listing of the files on the Workbench disk.

● Occasionally, simply pressing the left or right mouse button will get you out of a process.

If you don't want to re-set (CTRL-A-A), and want to get back to the Workbench or CLI screen, use the LEFT-AMIGA with M or N to switch back and forth between screens.

And finally, the more obvious way - it could be that there's a menu at the top of the screen with a QUIT option. I've often been caught trying obscure ways of exiting something and have forgotten that one. ❑

C64 Colour, Graphics & Sound Part III

Histograms

by Greg Perry

THE COMMODORE graphics set makes it easy to draw a histogram (bar chart) with a resolution of up to 8 steps per character without the need to go into high resolution plotting.

Each character is constructed on an 8 X 8 pixel grid. In the keyboard graphics set, there are a number of different graphic symbols (including reverse field ones) which provide either, only one or two of the 8 possible horizontal or vertical lines, or sets of partially filled character blocks. Have a close look at the keyboard and see if you can identify them.

To see them properly, clear the screen, position the cursor in the centre of the screen and type the following sequences

Horizontal: type the following characters on the same line

C= and T; shift and E, D, C, F, R; and C= and @ C= and T, Y, U; REVERSE ON followed by C= and I, O, P, @, and SPACE

Vertical: type the following characters in a vertical column

C= and H; SHIFT and T, G, -, H, Y; C= and N C= and H, J, K; REVERSE ON followed by C= and L, N; and space.

Notice that C= and G or H, and C= and M or N give the same characters. In the original Commodore character sets these were different, but to improve the colour resolution most characters now consist of a minimum of two lines of pixels. From these graphics, it can be seen that there are partially filled characters containing 8 horizontal and 6 vertical steps.

These can be used for high resolution histograms. To print a solid horizontal histogram with high resolution, we print reverse field spaces for the main blocks then use one of the 5 partially filled vertical characters for the last block.

With 37 columns available for the plot (borders take the other 3), the resolution with 6 steps per character is 1:222. The characters are selected by their Commodore ASCII character codes in Line 300. See if you can figure out how the program works.

Program: Horizontal Histo

```
10 REM (C) Greg Perry, Brisbane 1984
100 REM HORIZONTAL HISTOGRAM
110 FOR I=1 TO 5: READ CH
120 CH$(I)=CHR$(CH): IF I>3 THEN CH$
(I)="[RVS]"+CH$(I)
130 NEXT
140 PRINT "[CLR]" TAB(5)"HISTOGRAM
[SPACE]RESOLUTION[SPACE]1[SPACE]IN
[SPACE]222"
150 GOSUB 250: PRINT "[HOME,DOWN]"
160 FOR J=1 TO 19:A=RND (0)*37*6
170 B%=A/6:C%=A-B%*6: PRINT "[RIGHT]";
180 FOR I=1 TO B%: PRINT "[RVS,SPACE]";:
NEXT
190 PRINT "[OFF]"CH$(C%)
200 NEXT
210 POKE 214,22: PRINT : PRINTTAB
(8)"PRESS[SPACE]SPACE[SPACE]
  FOR[SPACE]MORE"
220 GET A$: IF A$="" THEN 220
230 GOTO 140
240 END
250 REM BORDER
260 PRINT "[<A>]";: FOR I=1 TO 37: PRINT "
[<R>]";: NEXT : PRINT "[<S>]"
270 FOR I=1 TO 19: PRINT "[<O>]" TAB(38)"
[<W>]": NEXT
280 PRINT "[<Z>]";: FOR I=1 TO 37: PRINT "
[<E>]";: NEXT : PRINT "[<X>]": RETURN
290 REM DATA FOR HORIZ. CHARACTERS
300 DATA 180,181,161,182,170
```

For a vertical histogram we use a similar method except there are now 8 vertical steps per characters. Using 20 lines, this provides a vertical resolution of 1:160. Note the cursor movements in Line 190. What do they do? HINT : think of how you would print this picture manually from the keyboard.

Program: Vertical Histo

```
10 REM (C) Greg Perry, Brisbane 1984
100 REM VERTICAL HISTOGRAM
110 DIM A%(50): FOR I=1 TO 7: READ CH
120 CH$(I)=CHR$(CH): IF I>4 THEN CH$
(I)="[RVS]"+CH$(I)
130 NEXT
140 PRINT "[CLR]" TAB(3)"VERTICAL
[SPACE]HISTOGRAM[SPACE]1-160
  [SPACE]RESOLUTION"
150 GOSUB 240: PRINT "[HOME]"
160 FOR J=1 TO 36:A%(J)=RND (0)*20*8:
NEXT
170 PRINT "[HOME]"; FOR J=1 TO 36: POKE
214,20: PRINT
180 PRINT TAB(J),:C%=INT (A%(J)/8)
190 FOR I=1 TO C%: PRINT "
[RVS,SPACE,OFF,UP,LEFT]";: NEXT
200 PRINT CH$(A%(J)-C%*8): NEXT
210 POKE 214,22: PRINT : PRINT TAB
(8)"PRESS[SPACE]SPACE[SPACE]FOR
  [SPACE]MORE"
220 GET A$: IF A$="" THEN 220
230 GOTO 140
240 REM BORDER
250 PRINT "[<A>]";: FOR I=1 TO 37: PRINT "
[<R>]";: NEXT : PRINT
"[<S>]"
260 FOR I=1 TO 20: PRINT "[<O>]" TAB(38)"
[<W>]": NEXT
270 PRINT "[<Z>]";: FOR I=1 TO 37: PRINT "
[<E>]";: NEXT : PRINT "[<X>]": RETURN
280 REM DATA FOR VERT. CHARACTERS
290 DATA 164,175,185,162,184,183,163
```

Another use for such histograms is to display the time remaining in a game. The next program displays a timer countdown of ten seconds in reverse field.

Program: Timer Histogram

```
10 REM (C) Greg Perry, Brisbane 1984
100 REM TIMER HISTOGRAM
110 FOR I=1 TO 5: READ C
120 CH$(I)=CHR$(C): IF I>3 THEN CH$(I)="
[RVS]"+CH$(I)
130 NEXT
140 PRINT "[CLR,DOWN2]";: GOSUB
230:TI$="000000"
150 PRINT "[HOME]" TAB(13)"TIME[SPACE]"
RIGHT$(TI$,2)"[SPACE]SECS"
160 A=(TI/600)*222: IF A>222 THEN 200
170 B%=A/6:C%=A-B%*6: PRINT "
[DOWN2,RIGHT]";
180 IF B%<1 THEN PRINT CH$(C%): GOTO
150
190 FOR I=1 TO B%: PRINT "
[RVS,SPACE,OFF]";: NEXT : PRINT CH$
(C%): GOTO 150
200 POKE 214,22: PRINT : PRINT TAB
(8)"PRESS[SPACE]SPACE[SPACE] FOR
[SPACE]MORE":
210 GET A$: IF A$="" THEN 210
220 GOTO 140
230 REM BOX
240 PRINT "[<A>]";: FOR I=1 TO 37: PRINT "
[<R>]";: NEXT : PRINT "[<S>]"
250 PRINT "[<O>]" TAB(38)"[<W>]"
260 PRINT "[<Z>]";: FOR I=1 TO 37: PRINT "
[<E>]";: NEXT : PRINT "[<X>]": RETURN
270 REM DATA FOR HORIZ. LINES
280 DATA 180,181,161,182,170
```

Exercise: Add colour changes to the above three programs.

Before leaving histograms, we should look a common one that is used in dem-

onstration programs. This is a low resolution multi-colour histogram using colour and simple graphics to present a pseudo three-dimensional effect.

Exercise: Before looking at the program listing, work out how, by starting at the bottom of the screen, you would print a vertical block of say 10 reverse field characters.

Done it?.

Answer: The process involves the following steps:- position the cursor in the centre of the screen, press reverse on [RVS], then a space followed by cursor up [UP] and cursor left [LEFT], followed by another space and so on.

Now, on the top of the column to give a 3-D effect, turn reverse on [RVS], press C= and "*" [<*>], press cursor left twice [LEFT 2], reverse on [OFF] and finally another C= and "*".

It's not that difficult, is it?

The following program uses a similar but slightly different routine. Apart from the background graphics, the graphics, colour and cursor control symbols are in Lines 230 - 250; a C= and "G" [<G>] is used to define the left hand edge of the column, reverse spaces of different colours to fill the front face of the block, and cursor movements [UP] and [LEFT 2] to position the cursor on the line above ready to print the next block. The top of the block is printed as discussed above. Figure out how these create the 3-D effect.

Remember, POKE 214 is to position the cursor on a particular screen line and POKE 646 is current character colour.

Program: 3-D Histogram

```
10 REM  (C) Greg Perry, Brisbane 1984
100 REM  3-D HISTOGRAM
110 REM  DRAW BORDER
120 PRINT "[CLR]";:: FOR I=1 TO 20: PRINT TAB(3)"[<Q>]" TAB(34)"
[<W>]": NEXT
130 PRINT "[HOME]";:: FOR I=1 TO 4: PRINT TAB(4);: FOR J=1 TO
30: PRINT "|C|";: NEXT
140 FOR L=1 TO 5: PRINT : NEXT : NEXT
150 FOR I=1 TO 4: PRINT TAB(I+2)"[<*>]";: FOR J=1 TO 30: PRINT "
[RVS,SPACE]";: NEXT : PRINT "[RVS,<*>]": NEXT
160 POKE 214,19: PRINT : PRINT "1--": PRINT "[SPACE]2--": PRINT
"[SPACE2]3--"
170 C(1)=0:C(2)=3:C(3)=10
180 REM  PLOT HISTOGRAM
190 FOR K=1 TO 3: FOR J=1 TO 10: POKE 214,18+K: PRINT : POKE
646,C(K)
200 FOR I=1 TO 10-K*3+J
210 REM  FORI=1TORND(0)*(20-K*4)
220 PRINT TAB(J*3+K);
230 IF I=1 THEN PRINT "[<BLU>,RVS,<*>]";: POKE 646,C(K):
    PRINT "[SPACE,LEFT2,UP,OFF]";
240 PRINT "[<G>,RVS,SPACE,OFF,LEFT2,UP]";
250 NEXT : PRINT "[<*>,RVS,<*>,<BLU>]": NEXT : NEXT
260 END
```

If you do not like the colours change the values of C(1-3) in Line 170.

Exercise: Modify the above program to use random values: ADD a REM to the start of Line 200 and DELETE the REM from Line 210.

Exercise : Instead of using stepped or random values make the following changes to input a set of actual values.

```
10 DIM A(3,12)
20 PRINT"[CLR]PLEASE INPUT VALUES FOR 3 BANKS"
30 PRINT"EACH WITH 12 COLUMNS"
40 FOR I=1 TO 3:FOR J=1 TO 12
50 PRINT"BANK";I;"COLUMN";J;
60 INPUT"VALUE";A(I,J)
70 IF A(I,J)>19 THEN PRINT"TOO BIG":GOTO 60
80 NEXT:NEXT
```

and CHANGE

```
200 FOR I=1 TO A(K,J)
(DELETE LINE 210 if present)
```

Exercise: This will only allow values up to 19, as shown in Line 70. If you wish to make this a more general program, include a scaling routine by

DELETE Line 70 (and Line 210 if present)

Firstly, initialize maximum and minimum values for each bank

```
90 FOR I=1 TO 3:MX(I)=A(I,1):MN(I)=MX(I):NEXT
```

Then set maximum and minimum values for each bank

```
92 FOR I=1 TO 3:FOR J=1 TO 12
94 IF MX(I)<A(I,J) THEN MX(I)=A(I,J)
96 IF MN(I)>A(I,J) THEN MN(I)=A(I,J)
98 NEXT:NEXT
```

and finally CHANGE

```
200 FOR I=1 TO (A(K,J)-MN(K))/(MX(K)-MN(K))*19
```

This ensures that each bank is scaled independently to fit it in the screen range of 19 vertical positions.

Exercise: Add similar routines to the high resolution histograms discussed above. ❑

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Video titling with Pro Video

by George Kimpton

The home video buff has it made these days if he owns an Amiga. With the genlocks and software currently available that old home movie can really come to life.

IT IS EVEN possible to convert old 8 mm films to video and dress them up. A friend of mine has done this using a table-top back projection screen and a video camera. Home movies are now a whole new ball-game.

In the not so distant past everyone including yours truly cringed and dived for cover when others brought out their home movies. Looking at some of my old 8 mm film movies now I can start to understand why.

They were at best crude attempts at copying documentaries at the movies or on TV. At worst they were excruciatingly boring repetitions of the family albums except that these pictures moved sometimes.

One night some years ago I visited a friend who had been on a safari tour through Central Australia. I fully expected to be bored silly with his movie (8 mm. film) but I was pleasantly surprised by the way he had put it together. He had gone to considerable trouble to produce a sound track including synchronised music and commentary. To this he had added shots of maps and other information and even managed to animate progress on a road map to let us know where he was at that particular moment.

It really was an achievement at that time as inserts, titles and animations required much patience manipulating the camera and then physically splicing in the inserts. Sound synchronism was also difficult requiring the locking together of the projector film path and a separate tape recorder.

Today with a Video Camera, a Video Recorder, a Genlock and an Amiga and software like *Deluxe Paint*, *Pro Video Plus* and *Video Effects 3D* etc. it's a snack as they say. With built in microphones and the sound digitising software available today it would also be a pretty raw novice who can't produce perfect sound effects to make the movie come to life.

Which brings us to the purpose of this story. Let's look at how to dress up your movies. In the latest *Amiga Annual* the subject of Genlocks was covered by Dave Thompson and I had something to say about animation software. This leaves us with titling programs and information overlays.

Pro Video Plus and CGI

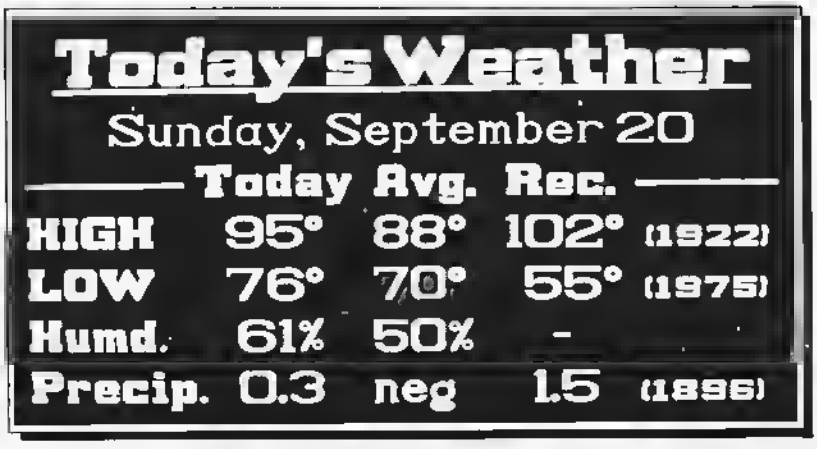
● One of the best programs I have seen is *Pro Video Plus* which I will now proceed to dissect. I will also make some comparisons with the earlier version, *Pro Video CGI* which comes with a fascinating demo.

Pro Video Plus can produce some very professional titling with its Hi-Res fonts and is in fact used by some cable TV stations in the States. I also suspect that it or its earlier cousin, *Pro Video CGI*, is used for the Clintons Toyota ad on TV here.

Program control is by CLI for booting and be warned neither CGI or Plus will tolerate sharing the Amiga with any other programs. Function Keys allow manipulation of the text and a wide range of display attributes. A cut-out guide is supplied and fits snugly around the Function keys making the programs easy to use once you become familiar with their quirks. However, be warned, follow screen instructions exactly and do not try anticipating things like changing disks or you will be in trouble quickly. Both programs are very unforgiving of the impatient.

Four fonts and four line sizes are provided as standard fare in *Plus*. Line heights and font sizes can be mixed as long as you don't try to use a font larger than the line size. A set of extra fonts is available at additional cost. *Pro Video CGI* only has three line or font sizes and the method of size selection is different.

Fonts for *CGI* are not transferable to Plus and vice versa. With *Pro Video Plus* if text smaller than the line size is used then sub or superscript is possible by mixing text sizes and using vertical justification. It is also possible to underline text or use italics for effect.



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Colours

● The text colour is selected from either 15 standard palettes or user defined from 4096 colours. These palettes are also used to define shadow and edge colours. *Pro Video Plus* allows 16 and CGI eight colours. Shadow depth and direction are selectable in steps and letter edge outline thickness is also selectable. Underlining of individual letters with different colours is possible.

Colour mixing on any line is possible to create special effects. It is possible to create some very spectacular screens using the different shadow colours and sizes. Similarly outlining of either the letters or their shadows can create some very interesting effects. Carefully handled it is possible to produce some 3D type pages or lines which literally seem to jump out of the screen.

One word of warning here. It is possible to import background graphics or other IFF pictures with Pro Video Plus BUT both Palettes should be the same or else colour conflicts will occur. The other possibility is to use the second half of the palette for text and the first eight colours for the picture. This of course means you will need to limit colours in your pics.

Pro Video CGI will not allow Background imports. Another disconcerting effect of colour control is the ability of the incoming screen's palette to sometimes take control of the outgoing screen in some transitions when different palettes are used. This conflict can sometimes produce some strange colour combinations and totally spoil the effect you are trying to create.

Apart from importing background pics both programs allow the insertion of selected backing colour strips to accent the text. A range of selected shapes such as lines, diagonals, stars, squares and circles etc. is also supplied to dress up the screen or box or underline text.

Pro Video Plus also provides a range of grids as backing. With the instant background facility these grids or text can be turned into background patterns for the entire page. Once a screen is set up the transitions must be set to determine how the screen will appear or disappear. The speed with which this will happen and how long the screen will be displayed or dwell must also be set. Line transitions can also be set in the same way. In other words it is possible to control lines independently of page controls.

Pro Video Plus provides 32 page transitions such as, bangs, checker, compressions and expansions, fades, push or pull off, spiral, replace from top, bottom or centre, pull over from top or bottom, replace horizontal etc. *CGI* only provides 15 transitions.

Plus also allows 92 similar line transitions in-

cluding a user defined custom transition. Each line can have different line transition characteristics as can the pages. One very useful facility is the ability to move completed lines up or down the page after you find you have goofed and need to change the page around for best effect. This also allows the insertion of new or blank unused lines to space out a presentation.

As each page is set up it is allocated a number in a sequence up to 100. These are subdivided into blocks of ten pages for control purposes. These sequences then become part of the program which later controls the show when the Function keys are operated on cue. With Plus it is possible to set up 2600 pages in 26 banks for recall.

Selected groups of screens or pages can be set up to automatically cycle for continuous displays. With careful manipulation of dwell and transition times it is possible to set up an exactly timed sequence of pages to slot into a video on cue with single key starting.

Pro Video Plus allows for the importation and storing of IFF pictures or files. These can then be used as backgrounds for the titles or text being displayed but as mentioned above care must be taken selecting palettes as the final display will be controlled by either the text or background palettes.

When screens are completed they can also be saved as IFF files for use in other programs or for manipulation in *Deluxe Paint, Photon Paint* or *Digi-Paint*. Because of this ability you can use *Pro Video Plus* to produce Hi-Res screens for other programs and uses. I have used this method to produce screens for animation in *Video Effects 3D* and this will be discussed in another article about that program.

Memory

● It should be noted however that 1.5 Megabytes of memory is needed to import and store pictures for use in sequences. These pictures then reside in memory until called by the program. When loading and running previously set-up sequences the background pictures must also be loaded in the same order as before. It is also possible to create a text screen in *Pro Video Plus*, save it as an IFF page, load it into *Deluxe Paint* and manipulate it using perspective mode or whatever, resave it and return it to *Pro Video Plus* as a page. Here it can have additional text added or overlaid.

It is also possible to insert art screens created on *Deluxe Paint* as pages in a titling sequence providing they have been saved in IFF format. These screens can also be subject to the same transitions as the text pages. Control of shows is also possible by editing picture and job files allowing preset sequences to occur at the time of loading *Pro Video Plus*.

Some interesting effects can be created by using either the colour cycling or flashing ability of this program. It is possible to sweep a colour highlight across text on the screen or to have words or symbols flash on or off for special effects.

The only real complaints I have are the inability to multitask, the rigid need to wait before changing disks and the lack of any real guidance for installation on a hard disk. With the massive amounts of memory sometimes needed to produce a lengthy lead-in for a video, use of hard disk memory is vital to store the pages. However I have not succeeded in operating either *CGI* or *Plus* from my hard disk yet.

Maybe I am just dumb, as it is supposed to be possible. I hope you have more luck.

Review copy of *Pro Video Plus* PAL from Computermate (02) 457 8118. RRP $489.00. ❑

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The Mega Entertainment Section

Edited by Phil Campbell

That's Entertainment

News, views and mini-reviews from all over the place.

Amas fram Pactranics

● In our April issue we said that Amos, the long awaited game creation system for the Amiga, had been released by Pactronics. Unfortunately Amos has not yet been released. A demo disk showing just some of the language's capabilities is available. If anyone would care to send a blank disk Pactronics will copy the demo onto the disk and forward it straight back to them, and will advise everyone when Amos is actually released. Send to Pactronics, PO Box 101, Rydalmere, NSW 2116.

Dragon's Breath

G'day, Dragan's Breath

● No, not the ultimate insult for a halitosis sufferer - *Dragon's Breath* is a top class new game from Mindscape that's scored rave reviews in the overseas press. I can see why! Set in the mythical land of Anrea, you play the part of Bachim the Alchemist, Ourood the She-Vampire or Ametrin the Green Beast. Your task is to seek out the three parts of a talisman that will give you entry to the ancient throne room. First though, you'll need to breed some dragons, 'cause as we all know, once you find a talisman you've got to have a dragon to guard it. Mmmm? The fact is, the graphics I've seen in my first five minutes with the game are awesome. The music is dark and foreboding. And the gameplay is totally icon-controlled, so it should be easy to play. Looks like a certain winner! Stay tuned for more details.

Cinemaware maves hause

● Yes folks, Cinemaware, long the flagship of the Mindscape software range, has moved to Questor. This is a major coup for the guys and gals at the big "Q", though Mindscape are putting on a brave face. "We've still got some huge names," says Mindscape's Craig Kingshott - "and we keep the rights to some of our existing Cinemaware titles." That's life, I guess. Just so long as somebody is selling my favourite games I won't complain.

Press kit af the year?

● Wow! Questor have just sent me the glossiest, fanciest press release I've ever seen. It's all for a game called *Elvira, Mistress of the Dark*. All a bit off colour, featuring a buxom wench on the front who has apparently got quite a reputation - sort of in the same vein as Morticia in the Adams family. Must be quite a game, but I'm sick to death of occult games that talk about things like "devil worship and other satanic ceremonies." Nice looking press release. Shame about the contents ... stay tuned for a closer look next time.

Big awards far Aussie SSG

● In the past 12 months Australian software house SSG has really cracked the overseas market. Specialising in strategy games, the company has many prestigious awards to its credit. *Rommel* was awarded "Best Military Strategy Game" by *Ahoy!* Magazine and "Best Military Strategy Game" by *Dragon* Magazine. *Reach for the Stars* was included in the *Amiga World* magazine's list of the 20 best games of 1989. Congratulations, guys - keep up the good work.

Dragan's Lair II arrives

● Amazing scenes fill my screen as the sequel to *Dragon's Lair* rattles into life - this one is subtitled *Escape from Singe's Castle*, and it picks up where the original left off. Not only that, it seems that it corrects every possible weakness in the original. Critics complained that *Dragon's Lair* could not be installed on a hard disk because of the special disk format that was adopted. Get this. Not only can you instal part 2 on a hard disk, it also tweaks the original so you can transfer it as well and make one huge mega-game. Still darn hard to play, though - I'm stuck on the first scene as usual, even though there's now a hint box which shows you which way to push your joystick. Top effort from Questor, with the five disk game priced at $89.95.

Megaquiz winners

● Well, looks like our February Megaquiz stretched you to the limit. Nobody got all the answers right - shame on you. Doesn't anyone remember *Jelly Monsters*, the brilliant *Pac-Man* clone on the VIC 20? It was so good that Atari insisted Commodore take it off the market. Anyway, first prize goes to Lee Adamson, of Winmalee NSW - congratulations Lee, a bundle of Amiga games are on their way. Purely on the grounds that his entry was the most entertaining, second prize has to go to Stuart Elflett of Toogoolawah, Qld, who will soon find himself with a somewhat smaller bundle of games for his trusty Commodore 64.

Thanks to all those who entered, and to Questor, Mindscape and Pactronics for providing the prizes! ❑

Letters to the editor

Dear Sir,

● I really enjoy your mag, and think that it gets better every issue However, I would like to forward some suggestions to you. When you review games (more reviews please!) why not mark them out of 10 or 20 or even break the games up into parts - eg, Grpahics, Sonics, Gameplay, Addictiveness, Value - and mark them all out of 10. I have enclosed some Pokes and a map for *Batman*. I hope you can publish them. Also, could you please tell me where I can get a copy of *Maniac Mansion* by Lucasfilm games. I'm desperate.

Tim Gorlick

Ed: Well, Tim, I'd give your letter about a 7 for addictiveness, 8 for sonics - cause what you said sounded pretty good - but only about a 4 for graphics, because your BATMAN map wasn't quite good enough to reproduce in the mag. We need straighter lines, blacker blacks, and the blues and browns just won't come out on the reproduction. Sorry. As to scoring, we'll give it some thought. The problem is in getting some standardisation between our reviewers. I'll work on it. Your Pokes will appear over the next few months.

Dear Sir,

● I'm replying to Vanessa van der Hayden's letter about *Bubble Bobble* on how to kill the end guy in the March issue. To beat the end guy you must get one of the lightning potions which then lets you fire lightning bubbles instead of normal bubbles. Blow heaps of them into a big group and then pop them so they hit the big guy. Keep on doing this until he dies.

Also, has anyone got a cheat for unlimited energy for *Operation Wolf* for the Amiga 500 as I can't pass the boss at the end of level 2. And by the way, great mag, guys.

Tim Bruhn (12)
Mandurah, WA

Ed: I'm sure Vanessa will appreciate the tip. It's readers like you who make this such a great magazine - after all, who can beat thousands of readers who are always ready to help one another out! Thanks for taking the time to write.

Dear Phil,

● I have in my possession a copy of *Vegas Jackpot* that I have been trying to swap or sell for quite a while. I'd be happy to part with it for a moderate sum if you will pass my address and phone number on to the person concerned. My number is 099 215952. I would also be pleased if you'd give the above info to anyone looking to swap or buy original software with paperwork. I've got games and utilities that I no longer need. Thanks for your help.

P Taaffe
PO Box 1390
Geraldton WA 6530

Ed: Thanks for the offer - I think we've already fixed up our reader who was after Vegas Jackpot, but who knows ... maybe there are other readers who would like to get it touch.

Dear Sir/Madam,

● I am writing to you for information on entertainment and views on the Amiga 500. I know nothing about computers and I am looking for advice on where to start and what to do and what is available. I saw your ad in ACAR, Phil, and am looking forward to hearing from you and hope you can help me out.

Mr J Perry
Fairfield West NSW

Ed: First things first. I'm definitely not a madam! Second, you'll need to ask yourself why you want a computer. If it's entertainment you're after and you can afford an Amiga 500, then go for it! You won't find anything better. So shop around - visit some of the computer shops that advertise in this magazine, and tell them I sent you. They'll give you good advice, and you'll be able to see for yourself what an Amiga can do. If you can't afford the Amiga - and remember you may need a monitor and second disk drive - then look at a Commodore 64 or 128D.

Dear Mr Campbell,

● I'm just writing to give you some tips on computer games. I like your magazine because it's Australian, not like the English junk we get. I was just wondering if you could give me an address so I could get some clip art for GEOS.

Troy Morrison
Mildura, VIC

Ed: Thanks for the hints and tips Troy. Yours is one of those letters that really should have gone in the other section of the mag ... well, part of it should. After all, what do I know about GEOS and stuff like that? This is the entertainment section - we don't talk about anything useful. Try phoning PRIME ARTIFAX on 02 817 0011.

Dear Sir,

● I have included some high scores and tips. I also have a question. If you suddenly got a brainwave for a great new game or peripheral, how would you go about making it a reality? Keep making a great mag,

Justin Wylie,
Temora, NSW

Ed: All depends, Justin. For example, if you've got a great software idea you could either program it yourself or speak to a local software house like MicroForte in Sydney. A hardware idea is a bit more tricky. You could talk to manufacturers like HPD in South Australia - they usually advertise in this mag - or again, at least try to build a working version yourself.

If you don't know enough to do that, then chances are your dreams will stay just dreams. Maybe the best thing to do first up is join a local user group and talk to some experts there. Drop me a line with a few more details if you are really serious.

Dear Sir,

● Can anyone help me with the SYS number for *Miami Vice*? All I can get is the starting screen, then it jams up.

Nick Van Heeswyk
Mt Gambier, SA

Ed: Calling all cars ... anyone out there who can help Nick? He deserves it - he's also sent in a heap of hints and tips. Besides, we spelled his name wrongly in the last issue. Sorry Nik. Oops. Nick.

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Dear Sir,

● A while ago I achieved a high score on *Pacmania* of 678240. I would like to know if this is still a high score as I could not find the high score page in the March edition. Did you actually print one? Anyhow, I have been meaning to tell you, that apart from this small error I find this to be a brilliant magazine and really helpful in purchasing software. One favour to ask. Could you please tell me the names of all the Sierra Games there are? I would appreciate it greatly. Another favourite of mine, which I purchased after reading your review, is *SimCity* - I haven't succeeded in creating a huge metropolis yet, but I intend to soon. Thanks for the great magazine,

Stefan Lamont, Ballarat, Vic.

Ed: In answer to your questions: Yes. No - sorry. Thanks. No, I can't remember, except for Space Quest 1, Space Quest 2 and Police Quest - sorry. Glad you like SimCity, so do I. Our pleasure, thanks for buying it. ❑

Amiga Hints and tips

AMIGA AMIGA AMIGA AMIGA AMIGA

Space Ace solution continued ...

● Last month we printed the first instalment of Geoff Suttor's solution to *Space Ace*. Read on for some more:-

Scene 9. As Dexter runs towards the monster go DOWN then LEFT straight away.

Scene 10. As soon as the tentacle grabs Dexter's leg press FIRE to blow its head off.

Scene 11. When the first blue cat-person creeps up behind Dexter go UP to avoid death.

Scene 12. Go UP as soon as the dogs appear.

Scene 13. Go RIGHT at the junction to avoid the dogs.

Scene 14. Wait until Dexter jumps. As soon as he is in the air, press UP to escape as the dogs get fried.

Scene 15. Go RIGHT to avoid being shot by the guards.

Scene 16. Go LEFT when Dexter is nearly at the end of the corridor.

Scene 17. Same as above.

Scene 18. Bad luck - you'll have to wait till next month!

Led Storm

● Matthew Mantle advises that if you type DAVID BROADHURST WANTS TO CHEAT you'll get infinite energy.

Thunder Blade

● Jason Strudwick says that you can use the HELP key to move between levels if you first type CRASH on the helicopter picture in the title sequence.

Better Dead than Alien

● Jason also says that typing CHAMP on the options screen in this one activates the cheat mode - press the HELP key, then FIRE BUTTON to find out what to do next. ❑

Commodore 64 hints and tips

Commodore 64 Rolling Thunder

● Glen Robinson says that POKE 33570,173 and SYS 33570 will give you unlimited lives.

Cosmic Causeway

● Also from Glen, POKE 14978,234 then POKE 14979,234 and SYS 8608 for infinite time.

Monty on the Run

● Nick van Heeswyk says you should POKE 3086,169, POKE 3087,0 and POKE 3088,234, then SYS 2064 to restart without sprite collisions.

Operation Wolf

● Robert Cristafio sent these useful Pokes for OP-WOLF.

Poke 36007,165 for infinite lives

Poke 35107,173 for infinite cartridges

Poke 35103,165 for infinite bullets and

Poke 34952,165 for infinite bombs

Restart the game with SYS 16960.

Living Daylights

● Yep, it's Nick van Heeswyk again - this time he says Poke 4390,238 and SYS 4352 for endless lives. ❑

Hall of Fame

Amiga

Arkanoid - 976,548 Kamikaze Andy
Bubble Bobble - 1,200,460 Vanessa ven der Heyden
Blockout - 36,455 David Marsh
Continental Circus - 290,000 Phil Campbell
Crazy Cars - 34,920,680! Daniel Herrison
Denaris - 53,900 Peter Evens
Dragon Ninja - 105,030 R Zagami
Double Dragon - 118,204 R Zagami
Gee Bee Air Rally - 307,466 Kamikaze Andy
Hybris - 1,618,452 Matthew Mantle
ISS - 1,420,450 G Smyth
Kerate Kid II - 52,000 Robert Dunn
Leatherneck - 83,300 Owen Webster
Major Motion - 50,658 Owen Webster
Menace - 996,481 Kemikaze Andy
Mindwalker - 306,214 P Schumacher
Mousetrap - 64,817 Matthew Mantle
Operation Wolf - 344,800 John Boyle
Outrun - 8,710,989 Daniel Herrison
Offshore Warrior - 626,345 Jacob Booth
Pacmania - 678,240 Stefan Lamont
Pioneer Plague - 35,412 Keir Sooby
POW - 106,065 R Zagami
Rampage - 111,600 Kamikaze Andy
Sidewinder - 385,800 Ian Malcolm
Silkworm - 913,700 A J Dunstall (Heli), 474,800 T Mason (Jeep). All 11 levels completed.
Speedball - 10,335 GS and PS
Starwars - 2,296,786 Ian Malcolm
Sword Of Sodan - 364,750 Kamikaze Andy
Test Drive - 103,981 Daniel Harrison
Test Drive 2 - 292,086 David Marsh
Tetrix - Level 100 Luke Tattersall
Typhoon - 54,255 Owen Webster
Whirligig - 7,428 Jonathan Scowen
Xenon II - 378,909 Kemikaze Andy

Commodore 64

Bangkok Knights - 36,800 Nick Van Heeswyk
Bomb Jack - 344,560 J Jacobs
Bubble Bobble - 1,009,857 Kishore Ludbey
Buggy Boy - 118,750 Paul Millward
Double Dragon - 17,340 Paul Millward
Double Dragon II - 255,180 Nick van Heeswyk
Fast Break - 136 to 9 Chris Byrne
Glene Sisters - 69816 Nick Van Heeswyk
Gryzor - 203,900 Paul Millward
Handball Maradona - Level M Nick Van Heeswyk
Hawkeye - 59,000 Nick van Heeswyk
Ikarl Warriors - 195,000 Troy Morrison
Int. Karate - 139,300 Paul Millward
Last Ninja II - Completed 34.2 sec Nick Van Heeswyk
Operation Wolf - 168,789 Kishore Ludbey
Outrun - 6,438,787 Kishore Ludbey
Paperboy - 4,650 Chris Byrne
Que-dex - 639 Chris Byrne
R-type - 684,200 Nick van Heeswyk
Robocop - 82,250 Tim Lockwood
Rolling Thunder - 222,740 Iceman
Salemander - 235,300 Paul Millward
Street Fighter - 127,050 Chris Byrne (clocked)
Super Cycle - 136,500 Kishore Ludbey
Thunderblade - 63,000 Troy Morrison
Thundercats - 57,500 Chris Byrne
Targel Renegade - 330,450 Chris Byrne (clocked)
Wonder Boy - 237,650 Kishore Ludbey

Mindscape competition of the month

● This month we've got two copies of *Dragon's Breath* to give away, courtesy of Mindscape - sorry, Amiga only! Something for C-64 readers next month, we promise. Simply write to **Phil Campbell**, PO Box 23, Maclean, 2463 and enclose a one paragraph story with the title "What I'd do if I had *Dragon's Breath*." The prizes will go to the two funniest entries received by May 25th, so get moving! ❑

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Pro Tennis Tour

AMIGA

*Linesmen ready? Ball boys ready? Players ready? **Phil Campbell** gets into his whites to play a few sets.*

NO DOUBT ABOUT it, tennis is a game of love. Fifteen-love. Thirty-love. Forty-love. And game. You might love it, you might hate it, but over the last few months there's been no way to avoid it. Tennis. The Australian Open. And worst of all for us frustrated amateurs, the guys on TV make it all look so easy.

Real life is far different. Most of my tennis playing career was spent chasing balls across neighbouring courts - excuse me please - retrieving balls from over the fence, and generally hitting balls anywhere except where I expected them to go.

Mind you, I did have one brief moment of glory, and I have the trophy to prove it. "Under-16 Doubles Champion." Nobody was more surprised than myself ... it just shows what you can achieve by choosing the right partner and then keeping well out of the way.

Tennis, though, is a wonderful sport, and in one form or another it has been simulated by computer programmers for years. The history books tell us that one of the very first video games - even before *Space Invaders* - was a game called *Pong*. The name referred not so much to an awful smell as to the reciprocal of "ping" - it was a simple version of video ping-pong, with two players controlling paddles at opposite ends of the screen. Black and white, two rectangles and a bouncing square, the occasional "bip-bop-boop" for sound effects, and the world was immediately addicted.

These days thing are a bit more sophisticated. *Pro Tennis Tour*, an Amiga game distributed by Questor (ph 02 6627944) is just about as real as you could imagine. *Pong's* squares and rectangles are replaced by life-like animated players, the bips and bops by the thwack of ball on racket and the roar of an appreciative crowd.

My first game is in the qualifying round of the Australian Open - Campbell against the little known Walter Rabbit. The court is shown in perspective view; I am at the bottom of the screen and my opponent is at the top. By now, the crowd is hushed. The air is tense. The game begins.

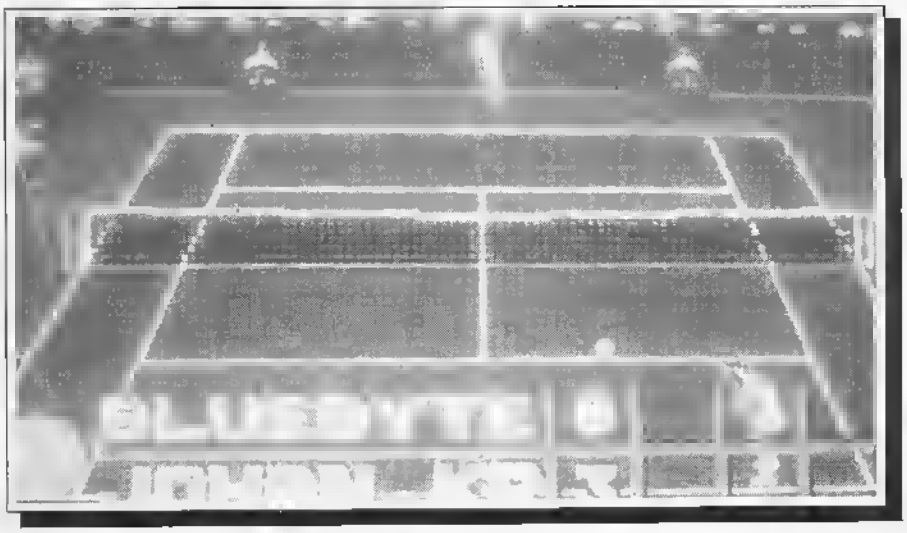
I press my joystick button to serve, aiming a cross-hair into my opponent's court and releasing the button at just the right moment. Rabbit returns my serve as I push forward on my joystick and race to the net. With perfect timing I intercept the ball - button pressed for the backswing, button released to hit. The ball flashes across the court, leaving Rabbit quite bewildered. Fifteen-love.

My eyes gleam as I let go another sizzling serve. The serve is wide. The second serve finds its target, and the point is battled out in a long and painful rally - not quite as painful as the real thing, but my wrist is getting a little tired from holding the joystick. I guess I'd better take it easy for a while. I'm not as young as I used to be.

Pro Tennis Tour is a top class game. Graphics on my Amiga are first rate, and animation is smooth and convincing. If you watch from a distance, it looks like a real game of tennis on the telly - the players stride around the court with ease and grace, and their strokes are smooth and well rehearsed. Sound effects are digitally recorded samples of real-life tennis sounds.

This game will do for tennis what *Leader Board* and *Mean 18* did for golf - it's an excellent simulation, absolutely engrossing, with a very realistic feel. *Pro Tennis Tour* is dangerously addictive - simple to learn, hard to master, and almost impossible to switch off. And best of all, you can't be sent off for using abusive language.

Review copy from Questor. RRP Amiga $49.95, C64 cassette $39.95, disk $49.95. ❑



SKIDOO

AMIGA

***Steve Pike** finds himself on some thin ice as he enters the Skidoo world championships. Join him as he races through the snow...*

I AM ON the border of the Arctic Circle in Canada sitting on my skidoo. A skidoo, for those who haven't met one, is a snow scooter - a motor bike on skis. I'm here to compete in races throughout the Canadian Territories, accumulate points, and become Skidoo World Champion. To do this, I have to reach the cities where the races are, with only a grid map to help me.

When I reach a town, I buy a ticket and enter a circuit race, confined to the town streets. When I win the race (not if), I receive a trophy, a write-up in the local rag and an absolutely terrible fanfare. If the race has been nominated as a championship race, I also earn championship points.

On board my skidoo I've got a compass, grid readout, speedo, calendar and a damage alarm - better equipped than your average battleship. Although it is a great machine, it still needs petrol, so if I get caught short, I may be able to get some from an igloo along the way. Hitting too many bumps can knock out the instrumentation, so be careful.

If the alarm goes off, don't rely wholly on the dashboard - make a bee-line to the nearest town for repairs. It's best to give the skidoo a service at each town - getting stranded in the snow is bad for your health. You could use your flask of spirits to warm you up; it will help a little bit, but you shouldn't drink and drive (you won't survive!).

Snow heaps and ski-jumps are fun, and they're a useful way to avoid other obstacles. Icy lakes are very cold and not much fun, so either go the long way around or be extremely careful. In the instruction booklet, it says you will run into a signpost telling you of the city you have entered. Once in town, you'll see a grocery store, a garage, and a racing shed. Pushing the joystick in any direction will get you into the corresponding store.

If you get into the situation where you need to hunt, watch for obstacles and keep an eye on the grid co-ordinates, so you don't get lost. Alternatively, if you see an animal cross your path and just want to try your luck, grab your rifle and go for it.

The snow isn't the place to be if you don't appreciate silence. Hence, the only sounds in this game are those you make yourself, eg excited yelps as you lose control over a jump, the skid of an out-of-control skidoo and the crack of thin ice. However, too many sounds would seem out of place up in the Arctic Circle. Listen for the opening music during the introduction - it is interesting, to say the least.

Similarly, graphics are relatively sparse, but you do get to see trees, igloos, and carcasses frozen in the ice. During the races you see the cities' outlines and who you are racing against, but mainly you see snow (what else would you expect?). The graphics can be blocky at stages, but being a simulation you tend to sacrifice beauty for gameplay, although a nice balance is delivered here. I found myself not looking at the graphics, but concentrating on the grid map and the racetrack, and generally getting very involved in the science of it all.

This game is one for those sports fans who want something a bit different, and even for those who don't get to go skidoo-ing in the Arctic Circle very often. It's best not to dawdle, you don't have unlimited time, and more importantly you must be very competitive to continue from one race to the next. One word of warning - it takes a while to complete the game, if you ever get to, so if you're not sure you have the time to play, have a game of *Monopoly* instead.

Review copy from Pactronics. RRP Amiga $39.95, PC $39.95. ❑

Table Tennis

AMIGA

Table Tennis ace ***Ken Simpson*** *fronts up to the green topped table to try his hand at this top class sport-sim ...*

I HAVE ALWAYS been a sucker for the topspin smash. If somebody laid me up anything even vaguely like a lob my animal instincts would come to the fore and I would thump that ball! As a teenager, table tennis was one of my favourite indoor sporting games so a new table tennis simulation from Starbyte quite took my eye. Many reservations flashed through my head. How would they make it realistic? How will you control the ball? What will the opponents be like? After all, some of the first games ever written for computer were based on ping-pong and, to be honest, were about as much like it as a paddle-pop canoe is to a US nuclear aircraft carrier!

When you boot the game (thankfully from a disk with a standard bootblock) you get quite a classy intro. Feels good so far. Then you are presented with a screen menu with two options - training or competition. The training menu then takes you to a new menu screen with different play types available - do you want to practice slices, topspins, hard and straights or variable shots? Whatever you then choose is served up to you by the service machine. So you can practice to your heart's content. But don't get your hopes up.

About this stage I thought - "Fine, I'm ready", so off I went to the competition menu, chose my bat and grip and then my opponent from quite a formidable list (and they are all different in the way they play) and got ready to start. Moments later, I knew I was in deep trouble - 20 to nil. A do or die effort gave me the next point, but 21 to one is only slightly better than 20 to nil.

It was only when I got back to the selection screen that I realised I had just been playing Mr Topspin, the top ranked player in the world. Maybe I'd have a better chance with Deng Li, a bit further down the list. Twentyone five this time. Getting better and choosing the right bat made quite a lot of difference.

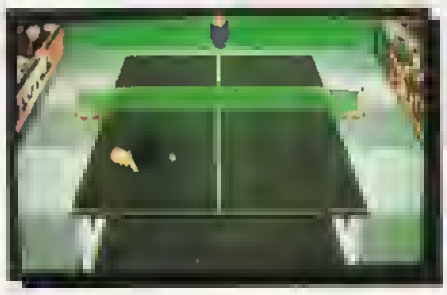
There are six available combinations of bats and grips, some are easy to control and others harder. My favourite after a while was Nops inside defence. Easy to control, slow, good for slice defence but with the option of a good topspin!

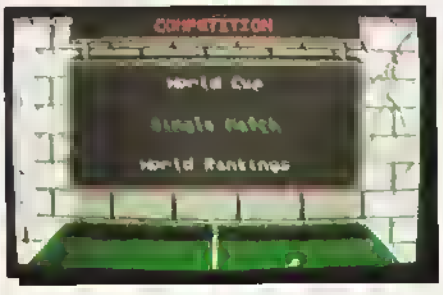
Control is much easier with the mouse. You can play it with joystick, but you lose the direct feel of the movement and the computer makes random choices about the direction of the return that you can make when playing with the mouse. To play you actually move a hand holding a bat to hit the ball and then you have four options of the type of stroke to play. You can do nothing and just block the ball back, you can press the left mouse-button for the slice return, both mouse buttons for a high speed straight stroke, or the right mouse button for the seductive topspin smash. All of these can be used for service as well as general play, though I found it considerably harder to do it in service, so most of the time I just block served.

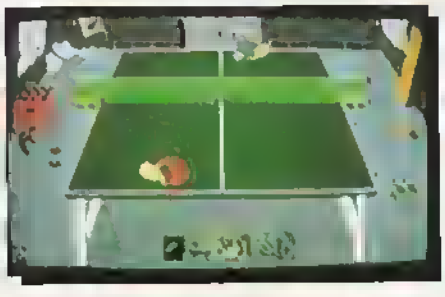
There are lots of options in gameplay, including doubles, as well as an option to play someone else. Doubles is much easier than singles to do well at as you are able to pick your opponents as well as your partner. Unfortunately I haven't been able to play "another person" yet.

Table Tennis lacks some of the real class touches that could make it an outstanding simulation such as crowd noise or a bit more background. But for sheer, addictive gameplayability (like that word?) I haven't had something I have enjoyed so much for a long time.

Review copy from Computermate. RRP Amiga $39.95, ST $39.95. ❑







AUSSIE GAMES

SIX WACKY SPORTS FROM DOWN UNDER!

Believe it or not, Aussie Games is not an Aussie game. It's actually a Yankee game with an Australian flavour. ***Tony Smith*** *plays along.*

THE INSTRUCTION BOOKLET for *Aussie Games* is written in a semi-strine language something like our own - very entertaining reading! At least, they refer to themselves as "seppos"- a wry grin crossed my face before I continued.

The glossary itself is a gem and some of the word usage is a little quaint. "Having an ESKY full of TINNIES and some VEGEMITE will help the time go by." And did you know that we Aussies reckon Beach Football is a "SWEET game"? Then there's the classic from Marlin Fishing - "Get your QUEUE ready." The glossary meaning for QUEUE is 'line' - I guess as in "standing in a line, standing in a queue!" I hope the "seppos" can understand it.

The games are divided into six events, The Belly Whack (flop), Beach Footy, Boomerang Throwing, Boat Race, Beer Shoot and Marlin Fishing.

The Belly Whack is set in Sydney - by the careful timing of a moving bar, the beer-bellied blimp is inflated by deep breathing, then launched horizontally into the harbour in a quest to make the biggest splash. Scoring is by koalas and possums hanging from trees and holding score cards.

Melbourne town comes next with a "sweet" (sic) game of beach footy. Well timed kicks send the ball flying above all the 'good sorts' (sorry ladies) and at the other end, your mate catches it.

This is quite a good game, similar to the frisbee throwing in *California Games.*

Into the bush for the next event, this time it is boomerang throwing. Sadly, the upper half of my aborigine was missing, so I was forced to make an estimation on behalf of the rest of him. The concept is good with the trajectory of the boomerang well illustrated by some nifty scrolling graphics.

"AYRES" Rock, sorry Mr Ayer, their spelling, not mine, is the next venue. The great Australian dry river boat race is a real joystick rattler - make the men run and jump over obstacles while you avoid small animals. If you stumble there is an interesting little scene involving your head.

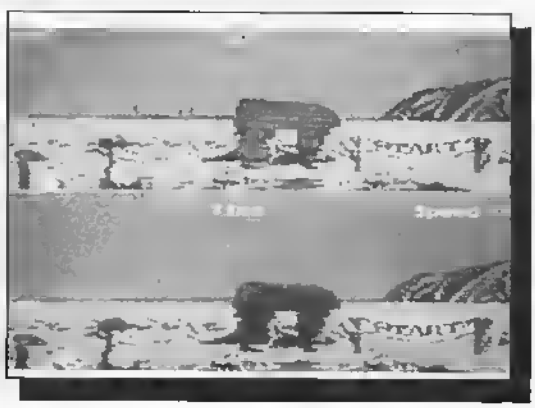
North to the Top End is where you go to the next event, the Aussie Safari, speeding along in the back of a moke through the bulldust and potholes. The passenger in the front tosses empty stubbies high into the air - your task is to shoot them with your shotgun. This is my favourite event in the games, a quick reflex shooting game, made harder by the swerving of the moke and the height of the "sodas" making them very difficult to hit. Added features include a cocky which flies across the screen. It can be shot but only results in one less shot for the game, 40 shots and 40 bottles being the limit. This segment would have made a fine game on its own.

Cairns is the spot for game fishing and that's what you must now do, another enjoyable and difficult game, more points being gained by using lighter lines or "queues."

Aussie Games will keep you occupied for a while with some very good and some not-so-good games. The graphics are good except for a few annoying glitches and some missing parts. Unfortunately the sound is terrible, the aboriginal didgeridoo music is ghastly and if anyone can stand the music from Belly Whack for more than five minutes I would like to meet them!

Loading is quick between games and with plenty of options including practice and team modes. The Aussie Safari is the biggest event with mascots and teams of up to four players. I really expected better from Mindscape after their other fine products but I'll give them the benefit of the doubt and enjoy the good bits. Thanks for the manual though - it was a million laughs.

Review copy from Mindscape. RRP C64 $49.95. ❑



Trump Castle

AMIGA

Maybe gambling could be called a sport - maybe not. But we'll throw this one into our sport-sim special anyhow! ***Andrew Baartz*** *saves himself a lot of cash by gambling with his computer ... read on to find out how.*

I'M A FAN of James Bond. But after watching hours of the Commonwealth Games I came to grips with the fact that I am dreadfully out of shape. The only activity in which I could possibly keep up with 007 is gambling at those ritzy casinos dotted around the world. One of those casinos could be the Trump Castle, an hotel and casino (by the bay) somewhere in America.

The game *Trump Castle* is based on the real thing and is the finest gambling simulation available. With accurate house rules, table limits, genuine random outcomes and a great user interface, it's all a little too realistic for comfort. A Bankroll of $10000 is more than enough to get you started, but as you attempt to break the casino you'll be glad it's only a simulation (at least until you get the feel of it - then you'll be dying to get to Jupiter's or Wrest Point)!

There are six major games available at the Trump Castle: Roulette, Craps, Slots (we call them poker machines), Keno, Video Poker and Black Jack. Keno was a game that I hadn't heard of previously, so I gave it a go first. It's a bit like our lotto. You choose between one and fifteen numbers between 1 and 80, then the computer chooses 20 numbers, and calculates the pay-off odds according to how many of your numbers were selected. I lost a small fortune here, so I shuffled across to the Black Jack table.

At the card table you really begin to appreciate the authenticity of *Trump Castle*, with insurance bets, doubling down and splitting pairs. Luckily the manual has a thorough explanation of all the rules and idiosyncrasies. I kept thinking back to that scene in *Rain Man* where Dustin Hoffman kept track of the cards as they left a six deck shoe. I reckon it's impossible. Nevertheless, I did develop a great deal of Black Jack skill after sustaining some pretty savage losses. After a lot of hard work (and adrenalin) I left the Black Jack table with my fortune restored, only to go elsewhere to pursue the elusive fast buck.

On my way to the Roulette wheel I stopped off at a few pokies. There were nine to choose from with a variety of advantages and attributes. They took up to five coins and the pay-off tables looked great. But I quickly discovered why they are called "one-armed bandits".

So on to the Roulette wheel, an old favourite. It has plenty of options to offset some of the pretty extravagant risks that can be taken (odds of up to 36 to 1). But on the other hand, they were risks that would yield handsome returns, if they were to come up. And they did! The Roulette wheel was my lucky break. The excitement was immense as the ball trundled around and around. And the pay-offs were bliss! After a couple of successive coups against the house, I reckoned I should move on, in case the bouncers came after me.

Time to shoot Craps. Another game of high odds for those who want to get rich quick. It's a relatively complicated little game in which you are armed with a pair of dice. Again, the manual tells you everything you wanted to know about it, but were afraid to ask. Interesting to watch, but not the high point of the collection.

On to Video Poker - I like most video games, why should this be different? The odds were much more conservative and after the last battering it was just what I wanted. The odd flush or straight almost brought tears to my eyes, as the nice sedate game of poker gently restored my account. I left ahead with $10120.

Gambling may be addictive, but *Trump Castle* is certainly more so. Not only that, it has probably has saved me $50,000 already. This game is a must for all compulsive gamblers and budding secret agents!

Review copy from Pactronics. RRP Amiga $49.95, C64 disk only $49.95. ❑

INTERNATIONAL TEAM SPORTS

***Luke Lynde** continues our sporting theme with a look at International Team Sports. Was it a winner? Read on...*

MINDSCAPE ARE AT it again, this time with a sport simulation comprising a bunch of events that might stretch your game playing abilities. There are many sport simulations on the Commodore 64, and a lot of them are very good! This is not one of them.

Before you begin any of the five events, you must select either one or two players from the games option screen and then pick your teams. Now it's on to picking athletes from a list to play in your teams' events. A bit of strategy is incorporated into picking athletes, a nice touch. Finally you choose the sports you wish to play and you'll be ready to get down to the physical work!

The five events are Water Polo, Soccer, Volleyball, 4x100 Track Relay and Swimming. You can play or practice an event and there's even a computer demo for your enjoyment. I don't think there's ever been a computer demo of sports in a sport simulation before, it's a good idea. The manual has 30 pages, and it features in-depth descriptions of the controls for each event and an easy to understand introduction.

The first thing I came across that I didn't like was the title screen. The music on it is very annoying and there's a long delay before the option screen begins to load up. And to make matters worse, the loading is incredibly slow and I'm talking about the disk version! Now, about those events...

Water Polo places you in the murky depths of a swimming pool. Your aim is to score more goals than the opposing team within a set time limit of your choice. The pool takes up most of the screen space, with the scoreboard at the bottom. Game control is average and the scrolling (called "Flow Control" in the manual) isn't as unique as the manual says it is but it's very effective.

The game is broken into quarters, and there are penalties (like free throws) so you can't get out of hand. Much of the game is played in silence and the ball at times looks like a diamond. Your team comprises three players which you simultaneously control. Many of the events have this team technique. The graphics are also very average. An OK event.

Volleyball must be the most confusing event of the lot - sometimes I don't even know what's happening! The aim is to be the first team to win two sets, and to win a set you must lead by two or more points. There's hardly any sound and the graphics are really primitive. Most of the screen shows the court, the rest showing the scoreboard. In this event they've also made the mistake of making the court too big.

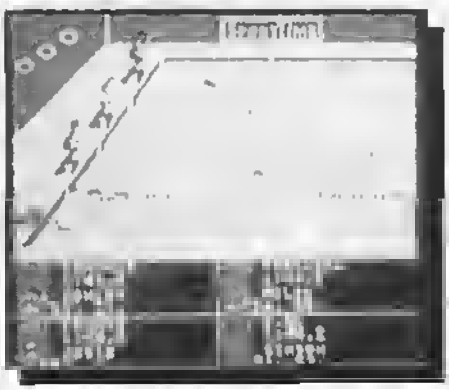
Soccer time, lads! Sad to say this is another "average sport" translation by Mindscape. And again you have some mediocre graphics and limited sound, but there is some nice scrolling. The view is side on and I think with a bit more effort this could have been the highlight of the package.

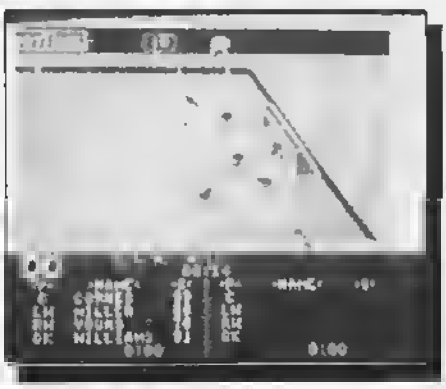
The 4x100m Track Relay lets you run 400 metres (controlling a different man each 100m) so as to beat the other competitors. About half of the screen is a overhead view of the track and the rest of the screen has the athlete's speed and so on. Not a bad event, but I've seen better on the Commodore.

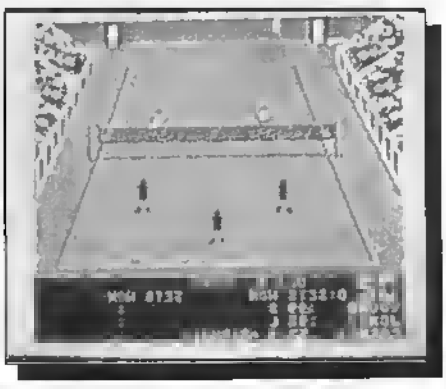
The last event is swimming. The actual screen incorporates a side on view of the pool, some boxes with speed and profile status and that's about it. The graphics and sound are OK, but like most of the other events, it's only mildly playable. Not a particularly good event I'm afraid.

If you're looking for a good sport simulation, check out *World Games*, *Summer Games* 2, *Winter Games* or any other Epyx sport simulation for that matter. They're better than this. Some of the stuff was not bad, but it was more fun watching the Commonwealth Games on telly!

Review copy from Mindscape. RRP C64 $49.95. ❑







Soccer Squad

***Luke Lynde** dusts off his old datasette unit and puts on his soccer boots to check out this compilation of the greatest soccer games of all time. Well ... some of them are okay, anyhow.*

WE ALL KNOW what the English like better than bacon butties, don't we?!

Yeah, it's soccer of course! Now you too can join in on the fun with a compilatin of four soccer games, courtesy of Gremlin Graphics. There's *Roy of the Rovers, Footballer of the Year, Gary Lineker's Superskills* and *Gary Lineker's Superstar Soccer.*

In *Roy Of The Rovers* the "Melchester Rovers" soccer team have been kidnapped. That means it's up to you (Roy) to find your four other team mates so as to all play a fund raising match to save your famous soccer ground. Sounds easy, eh? Maybe not!

This is a adventure and soccer game all in one. The adventure comes in when you have to search for your team mates, where you are in a icon driven scenario similar to the one in *Zak McKracken.* You can talk, run, walk, smile and loads more. Utilising these many features to their full potential does tend to boost the gameplay somewhat.

When you finish the adventure section, you go onto the soccer section. As in the adventure part, the soccer features garish sprites, bad sounds and unconvincing gameplay. There are not even any goalposts on the soccer field! A remarkably below average game - a good idea, a unique style of game, but not much else!

Gary Lineker's Superskills grants your computer man a very extensive training course. Life's tough, isn't it?! First of all there's the Gym section were you have to do push-ups, squat thrusts, weight training and monkey bars.

After breaking a few joysticks getting through those events, it's then onto ball juggling where you do something really amazing - you juggle balls. Ha! Ha! The last section is suitably called field work where ball control is the order of the day - dribbling, chipping, shooting and penalty shots.

Basically, the game just offers training and more training - which makes everything you do seem somewhat pointless, as you can't actually put your training into practice. It's not all bad though. You've got some nice graphics and sound, even if you do end up with very sore wrists.

The next game into my cassette deck is *Footballer of the Year*, a strategic game placing you in the role of a professional soccer player. You are 17, you have 5000 English pounds, 10 goal cards and, well, let's face it - you're pretty damn lucky! The sole objective of this game is to become the "Footballer of the Year".

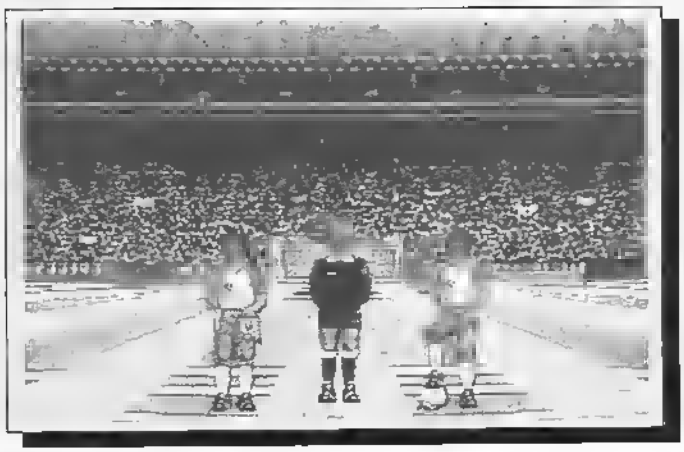
The game screen presents icons representing the state of your team, player status details, load or save a game options, quit a game, get incident cards and play a match.

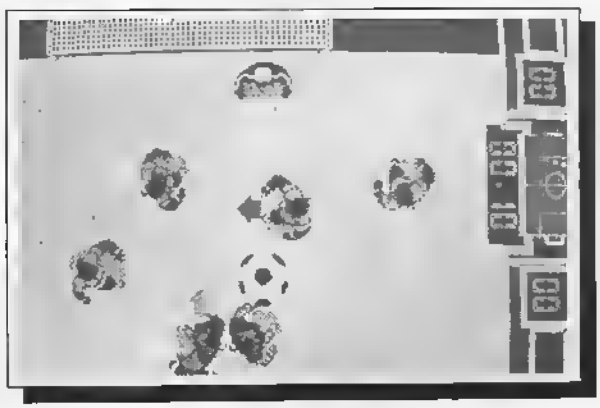
The more matches you play and win, the higher your ranking. Everything about the game is so competitive and addictive - it must be the excellent music that heightens the atmosphere! I love this game, it's better than the other three put together!

You've heard about *Gary Lineker's Superskills*, now here's its prequel called *Gary Lineker's Superstar Soccer.* This is your normal game of soccer with the demands of team management and coaching. Before starting you set up a league, choose a team name and the number of league games per season.

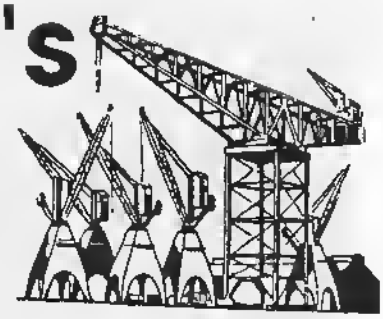
You have only one player to control for the whole match, and when you do get the ball you can pass or shoot in a number of different fashions. The gameplay is fast and the graphics and sound are sufficient, all in all it's an above average soccer game.

There you have it, the *Soccer Squad* compilation. It's a mixed bag of games really, ranging from bad ones to good ones. The best of the lot I think is *Footballer of the Year.* I can safely recommend this, but as I always say - "Look around first! ❑





Adventurer's Realm



by Michael Spiteri

Bon giorno, adventurers! Welcome to the Realm, Australia's only column that deals with the adventuring world on all Commodore computers (ranging from the Vic-20 to the Amiga!)

For all your adventure and wargame problems, write to the following central address:

Adventurers' Realm
P.O Box 351
Pakenham Vic 3810

Write to the above address if you want hint sheets, to discuss an adventurous topic, or even offer helps and hints!

If role-playing games (RPG's) are your kettle of fish, then Kamikaze Andy is always on hand to help you in this area (though he cannot supply hint sheets! Write to Kamikaze Andy in his Dungeon!

Realm's RPG Dungeon
44 Hawkesbury Dve
Willeton WA 6155

Remember to always enclose a stamped addressed envelope.

Adventurers Realm - now on BBS

● **Island Bulletin Board** in Victoria (03) 742 3993 have a special Adventurers' Realm section. I'll personally answer your problems if you are stuck. Membership is free, and the BBS is available 24 hours. All you need now is a modem! ❑

Free hint sheets

Adventurers' Realm has free hint sheets available to everyone. Just select up to four hint sheets listed below, and send that, along with a stamped addressed envelope (S.A.E) to P.O. Box 351, Pakenham, Vic 3810, and you'll receive them as soon as possible (depending on stock).

- **Bards Tale I, II, III**
- **Zork I, II, III**
- **Dracula**
- **Hitchhikers Guide**
- **NeverEndingStory**
- **Adventureland**
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- **The Hobbit**
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- **Castle of Terror**
- **Pirate Adventure**
- **Feery Tale**

Coming soon: Currently in the works is the Official Adventurers' Realm Hint Book, containing hints for most of the oldest and newest adventure games. Keep your eyes and ears peeled! ❑

Ooze! -Dragonware/Amiga

THE LATEST HORROR game to slide into your disk drive is *Ooze*!

It's not every day you inherit a haunted mansion from your uncle. His autopsy states that Uncle Cheeseburger suffered death from misadventure, however you think otherwise. Convinced that the real cause of his death lies in the mansion, it is yours to investigate!

That basically sums up the plot. The game is really just another haunted house story - but this one is cleverly done.

The game features lengthy text descriptions that really set the atmosphere. The descriptions are very well written, and you probably wouldn't know the difference if you were reading a novel.

On top of that you have some very nicely drawn graphics which pull up or down to display some or all of the text underneath. Occasional digitised sounds of laughter and doors opening complete the very eerie atmosphere presented in this adventure.

Throw in a great parser and you have the makings of a great game! Good ol' conventional adventure puzzles and downright brain-racking mysteries abide in this story. You'll meet a friendly little imp who throws riddles at you, and a ghoul with a fiendish laugh who throws fireballs at you. There's a graveyard ghost who sucks out your life, and a suit of armour that reassembles itself after you break it up!

There is a mysterious girl whose beauty captures you from her portrait. As you explore her bedroom ghostly moans abound. Do they belong to the girl, or is Lancelot prancing around stirring up trouble?

Well, every good game has its downfall. *Ooze* has the uncanny habit of making decisions for you! You can find yourself opening clock doors, breaking jars

and cleaning up the mess, and sleeping, without actually typing anything on the keyboard!! Whether this is a bug or a bonus I'll let you decide.

I'd better add that the text is terribly hard to read if you are using a television!

Criticism aside, if you are after a good mystery that looks a lot like *The Pawn*, then *Ooze* should satisfy your needs.

In summary, great text, good graphics, good sound, good parser and pretty good documentation adds up to a great game.

Rating out of 100: 90.

Verdict: Ooze into your computer store and sample it!

Review copy from **Pactronics** (02) 748 4700. RRP $49.95.

Legend of Djel -Amiga

by Tony Smith

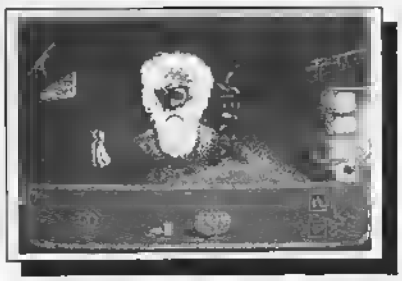
Legend of Djel is an icon driven graphic adventure game containing many puzzles and sub-games on a single disk (phew, no swappies) which will keep the dedicated adventurer on his toes for quite a while. Several different characters are featured in the quest, with the familiar theme of rescuing the kidnapped daughter of a Magician called Azeulisse and breaking the spell cursing the land with no children.

Sound easy? There are many lands to travel and some challenging puzzles to solve on the way. The Ocean of Pearl, Land of the Glades, Land of Everlasting Thirst, the Moving Lands, Kingdom of the Marshes and the Land of the Arch all conjure up images of exotic places which can be visited if your course is correct.

Spells and artifacts have to be gathered and used to bribe and barter your way around this large adventure. Fun can be had with bartering, a nice touch is the spinning coins into the bag when you make an offer, beware though, you only have three attempts.

Bats can be caught and used to make gold and there are 'confrontation' scenes with either force or mind being the options. In a confrontation by force the opponent has to be destroyed by changing into various forms and blasting the other's power ball. Confrontation by mind is a different game with a chess flavour, the object being to isolate the opponent so he cannot move in any direction.

The intro to the game is well done with some clever screen clearing methods used and an exceptional dragon folding out from the centre of the screen to finish. Based in Djel's den, the various puzzles start at the desk, there are implements scattered about such as a crystal ball, some stamina and power potion, a life candle, statuettes for visiting personages and a window.



Looking from the window sometimes gives surprises and if your memory fails there is a jar with the brain of a conquered dragon in it which acts as an inventory. Other countries can be visited and an atlas is available but hidden. Be careful when visiting the neighbours though, if you become bewitched in a foreign country you will be changed into a "Hideous stinking monster with no chance of getting out of your home again and your powers suspended."

Legend of Djel is a well written and large adventure, there are enough puzzles to assure long game life and with a few red herrings thrown in, it provides variation to keep up the interest. Graphics and sound effects are well up to Amiga standards with haunting yells and screams coupled with excellent artwork and colour combinations. Buy it and read the manual well - without it the game seems rather pointless, and it also contains some very valuable clues. Distributed by Pactronics and programmed by Tomahawk, *Legend of Djel* is tricky stuff, but very well done. I highly recommend it.

Review copy from **Pactronics** (02) 748 4700. RRP $49.95. ❑

Problems, Problems, and More Problems
(or the Troubled Adventurers Dept)

● Craig Wright of Epping in Victoria is stuck in a game called *Sydney Affair*.

A certain Diamond Network Computer System is keeping him puzzled. Can anyone offer help?

Pemjac of Mangerton in NSW is having great difficulty getting out of the first sector in the game *Hacker II*. Any help appreciated.

Sierra freak Luther Teng is stuck in three new Sierra adventures - *Leisure Suit Larry III*, *Gold Rush*, and *Hero's Quest*. He is also stuck in Cinemaware's *Rocket Ranger* and *Defender of the Crown*. Luther is just after some general hints and tips.

Andrew and James Dickson are really stuck badly in *Shadowgate*. They ask the following questions:

● How do you move the rope that is held in place by a magic force in the first stage in the chamber room?

● Where and what is the object that fits in the secret hole in King Doogan's throne room?

● What do you do with the wand with the serpent on it?

● How do you get the flute from the acidic fountain in the garden?

● How do you get past the cyclops without the help of a certain scroll that

makes you invisible?

● *It Came From the Desert!* That's the name of the game troubling Natalie Paine of Singleton in NSW. She has a number of problems:

● How do you actually get into the ants nest to kill Queenie?

● Why is there always trouble around the man at Neptune Hall?

● Who is the red-haired woman that comes to Greg's house?

● Why doesn't the cowardly mayor call out an alert as soon as you show him the evidence?

● In *Pool of Radiance*, Eddy Cheung of Westlake in Qld wants to know how to clear the land at Sokol keep.

● In the first *Personal Nightmare* problem to ever rear its ugly head in the Realm, Steve Morgan wants to know if the safe can be opened, and how. Also, can the stone door under the manor be opened.

● Jon Dickins of Fairfield in Qld is stuck in the Delphine Software game *Future War*. He has reached the room with the photocopier at the end of the secret passage however he has not been able to use the machine without the alarm sounding and a guard appearing and shooting the hero.

● Chris Morley of Broken Hill is stuck in *Caribbean Adventure* of the Eureka package. Chris writes: "I have a threefold problem with that namely the number pad on the door does not work. I tried 0000 to 10000 (which takes a long while!) and the door doesn't open. I cannot get through the office because the bridge keeps giving way and throwing me in to the Piranhas and the door at the other end is locked." Well, it seems Chris is up neck deep in problems, can anyone come to the rescue? ❑

Help, Help & More Help
(Or the Smart Adventurers Dept)

THIS IS THE section where problems that appeared in the Troubled Adventurers dept a few months back get answered. Thanks to all who contributed to getting adventurers out of their miseries. Now, roll out the hints....

● **Game**: Ultima IV
● **For**: Stinger
● **From**: K. Kupresak
● **Help**: Find Roderick in Serpents Castle for he knows of Orbs!

An orb of blue light will raise your strength, dexterity, or intelligence but at a cost. You don't have to find orb to finish this game; I never found one but still completed the game. The candle of love is found in the Altar room in Cove. You first need to dispel the barrier that protects the secret door.

● **Game**: Zak McKraken
● **For**: Dave Pittaway
● **From**: K. Kupresak and Stuart George
● **Help**: Find the birds nest and use it in the fire pit with the branch and lighter to start the fire.

● **Game**: Ultima IV
● **For**: Bradley Wenman
● **From**: K.Kupresak
● **Help**: In hard dungeons such as those on the Abyss, you have to find the trigger square which triggers the trigger square.

Note: To explain this problem better, K.Kupresak has supplied maps to level 8 of the Abyss. Copies of these maps are available by sending a stamped addressed envelope to P.O Box 351, Pakenham.

● **Game**: Kings Quest III
● **For**: S.K.Pillay
● **From**: Pemjac
● **Help**: Although 'mighty oaks from acorns grow', it's very much a chicken and egg situation. Oak trees definitely avoid sea air, being found somewhere on a north-south axis between very wet and very dry places. If all your acorns are green, try turning the tables on the robbers before gathering. As far as the lack of smooth stones is concerned, treasure is often hidden in dark and secretive places, but beware, any spider can trap a fly, but if you are clever, the predator will become the prey.

● **Game**: Maniac Mansion
● **For**: Walter Brank and Brendan Lewis
● **From**: Steve Morgan
● **Help**: Get the radioactive water from the swimming pool. Pour water on the man-eating plant but first use the can of Pepsi on plant. Climb plant and put dime in coin box. Push right button, put second dime in coin box, push right button again. Look through telescope. You will find extra dimes in piggy-bank. Make sure you have safe exposed. The staircase and chainsaw are irrelevant.

● **Game**: Zak McKraken
● **For**: Barbara Scott
● **From**: Steve Morgan
● **Help**: To open the pyramid you have to search the huge face on Mars for a drawing. If you are in the great chamber, the drawing is behind the left door.

● **Game**: Kings Quest III
● **For**: Lesley Robinson
● **From**: Eddy Cheung
● **Help**: When the wiard has gone to journey, go to the dining room in the wizards house and trap the cat into the corner. Then get cat, get cat fur.

● **Game**: Mortville Manor
● **For**: Noel McAskill
● **From**: Stuart George
● **Help**: Put the dagger in deep diamond shape in cellar - it reveals a passage! ❑

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Realm's Adventure Chit-Chat

● My review of the Adventure Gift Packs in the February Issue prompted John Gordon of the HMAS Penguin naval base in Balmoral NSW to Investigate further. John discovered that there was another gift pack offering six Scott Adams graphic adventures for $49.95. Thanks for the info John.

● Chris Morley of Broken Hill is one of the many adventurers who wrote in suggesting I include some of the outlets where some of the games I review are available. Well, I'll give a free plug to any store that sends the Realm a list of adventures they usually stock, and I'll make sure the list is published In a future issue.

Realm's General Hints and Tips

● Stuart George has sent in the following casual tips...

BARDS TALE III: Help: In Malefia, go to where Tarjan is and cast DIVA once, and kill everything until you get 100,000 experience points. After he says - "Now I will personally kill you", and you face one Tarjan, run away and repeat this.

FISH: Help: To get the focus wheel, go to the library (in University) and look up the page with the focus wheel on it. Tear it out. Use the tatty card to get into your lab, put torn piece of paper in photocopier (in adjacent store room).

Granl McKinney sends in some hints for....

PHANTASIE III: Help: When starting up on new characters, pick your members for their skills, not their gold. A good starting combination Is three fighters, a ranger, a thief (preferably dwarven) and a wizard with high strength and intelligence. The first thing to do Is to go to the Pendragon Archives and beat up a few low level monsters until your party are all about third level and your wizard has learned some good spells. The best spells are fireflashes, flamebolts, mindblasts, sleep and awaken. Other spells come in handy, but should only be used when there are none of the above available. With your ranger you should get all fireflash and healing.

Well, that's all for this month's Realm. Next month I'll be back with news and reviews of some classy Infogrames products.

Old problem of the month

● A new feature this month. There are many games that are no longer with us that have classic problems. So, send in your classic problems (with the solution - if possible). Someone will surely benefit!!

Remember *Mindshadow*? One particular problem at the end of the game had many an adventurer puzzled and perplexed! Grant McKinney has sent in some things to think about when you approach that particular puzzle:

Arcman, William, Tycoon, Bob Masters.

Realm's clever contacts

● I'll be printing the list of clever contacts in full in a few months. In the mean time, the latest addition is K.Kupresak of 44 Noarlunga Cres, Bonython, ACT 2905, who offers help in the following games:

- Ultima III,IV
- Bards Tale I,II
- Times of Lore
- Leisure Suit Larry
- Zak McKraken
- Leather Goddesses
- Wishbringer
- Legend of the Sword
- Kings Quest I

The Dungeon by Kamikaze Andy

Dungeon Review: **FIRE KING** (By Microforte / SSG)

● SSG is perhaps Australia's best known software developer and publisher. SSG is well known world wide for its excellent wargames, and especially for its sci-fi extravaganza *Reach For The Stars*.

With *Fire King*, the company seems to have leaned towards the arcade-adventure market. It is more of an arcade variation of the role-playing genre, rather than a full scale mind-boggling RPG.

I must state that the introductory sequence in the game is one of the most amazing I have seen on the C64. The music is fantastic, and the large detailed picture of the Fire King is nothing short of spectacular. The game is certainly full of atmosphere. The well written and funny manual also shows the effort taken by the guys at SSG.

The game itself puts the player (and a friend - because of the two player,option) on the quest to discover what happened to the Fire King. Apparently, after four great mages of fire, water, air, and earth had their usual annual pow-wow, some huge nasty from the depths suddenly appeared and attacked the congregation. The ensuing battle results in one very dead monster, but also sees the earth mage go cuckoo, the wind mage half dead; and the water mage lost without a trace (not even a puddle!). Oh yeah, the fire mage himself buys the farm (dead!).

The game really begins after the Fire King is buried; another nasty beastie decides to desecrate the poor mage's tomb, and it is your responsibility to first get rid of the beastie and then try to find out what happened to the other mages.

What with all of this detail in the plot, one would expect a role-playing game to rival *Ultima V*, however the programmers have decided to implement a *Gauntlet* type of system, and all of the features associated with *Gauntlet* are there - including keys, taps, vortexes, super-shots, etc. You even get some new features like bells, bombs, rings and magic boots. In effect, the programmers at Micro-Forte have produced a very arcade style R.P.G.

Also, there is a bug when you play the two-player version. If both players use different exits, the game just might crash!

Fire King is good for an arcade-adventurer, with its major strengths being the excellent plot and storyline. However I feel the use of this arcade system will now lure many hard-core adventurers to try it out.

Finally, some info I dug up about those programmers at Micro-Forte. Did you know that their previous effort (for Electronic Arts) was the *Gauntlet*-clone *Demon Stalkers*? I wonder why the obsession with *Gauntlet*? Even more weird, their first well known game (or could it be called program) was...wait for it...The Official America's Cup Sailing Simulation. No comment there, folks. ❑

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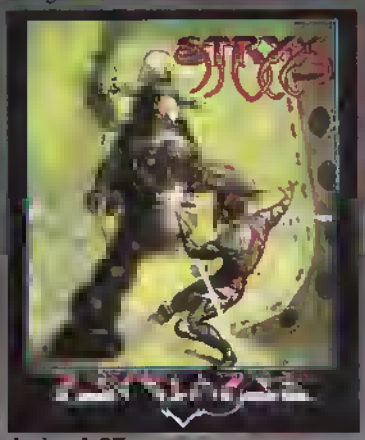

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